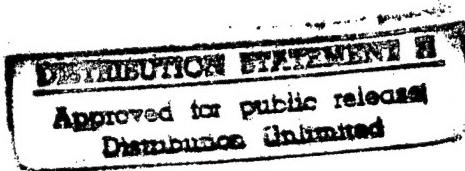


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East Europe Report



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EAST EUROPE REPORT

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ECONOMY

CZECHOSLOVAKIA

IMPROVED WAGE SYSTEMS DISCUSSED

Proficiency Pay for Professionals Recommended

Prague HOSPODARSKE NOVINY in Slovak No 34, 1986 p 3, 7

[Article by Eng Lubomir Jemala, Management Institute, Bratislava: "How to Compensate Creative Employees"]

[Text] Rationalizing internal enterprise management must begin at the preproduction stages. This is also, actually, where intensification and increased efficiency begin. Economic incentives for researchers, designers, design engineers and technicians are an important means to this end. In this article the author presents a new variation of the objective-program technique incentives for creative technical employees. The goal is to contribute to eliminating equivalence in compensation and to determine the most objective way for distributing the incentive component of wages. A collective form of compensation is proposed for preproduction stages, a form of compensation that is unprecedented in the CSSR and even, to our knowledge, anywhere in CEMA.

At the current stage of socio-economic development R&D is correctly considered to be one of the most important factors in the intensification of our economy. Since R&D is the object of much attention at the macroeconomic level, it follows logically that it should also be of concern at the micromanagerial level, i.e. in internal enterprise management. The primary source of R&D progress at the enterprise level is internal enterprise organization units (centers) for technical development and production preparation. These divisions should be managed to increase their own internal efficiency and the efficiency of the enterprise as a whole.

What Wages Can Accomplish

This is an exceptionally difficult task. I will outline here some of the related attributes of improved internal enterprise management at the pre-production stages, with a focus on increasing the efficiency of the compensation of researchers, designers, design engineers and technicians.

Incentives for these employees of up to Ksc 7,500 in increased pay and the use of other compensation possibilities have not worked. Why? There are several reasons, some of which are painful to discuss, but we must

discuss them. Based on research conducted by this institute the main reason this program has not worked is the envy and despotism of certain senior managers, fear of notoriety, loyalties to fellow employees, comfortable livings, etc.

We will mention only one of the objective reasons, namely that a paycheck in the amount of Kcs 7,500 can be obtained only by someone who has reached qualification classification T 13. What about the high school graduates who perform very well in their jobs at many worksites, often outperforming college graduates? Classification T 13 can be reached only by a college graduate with considerable practical experience who would also have to manage a specific work collective.

It would appear that we have to resolve this problem in some other way. It is said that economic incentives can work miracles. When an employee knows exactly what he is supposed to produce, why he is supposed to produce it and what he will receive for producing it within a specific time frame, he becomes many times more creative, inventive, and hard working. Is this really true? Sometimes yes and sometimes no. Why no? Various studies have indicated that currently wages are not the top priority for many employees in their hierarchy of needs.

If this is so can we really use wages to influence the acceleration of R&D progress? I think that it is possible, but only if we restrict nonwork incomes that are earned mainly on company time. Here I will describe a model and then a very simplified plan for objective-program incentives for creative technical employees. I will not consider here all of the conditions or relationships that must accompany this. These include personnel conditions, personnel rotation, professional qualifications, in some instances attitudes to socialist ownership, labor or professional discipline, supplier-consumer relations and deliveries.

The incentive system for outstanding professional employees that we will propose here is based on certain principles. The employees must clearly and accurately understand the long-range and middle-term strategy for the development of their organizations as well as the specific program objectives of their firm for the immediate future. These are to serve as a basis for them to derive progressive objectives and, specifically, feasible tasks in the area of the R&D plan. It is essential to elicit spontaneous initiatives and creativity from employees as well as appropriate participation in creatively managing the entire enterprise. This task should be approached using economic incentives and appropriate accountability for actual work results.

Simplifying the economic incentive system should make it possible, for instance, to implement changes in the number of wage forms (components of wages) for specific categories of employees (here we exclude nonprofessional employees). What we have in mind for a given classification is simply a wage rate which takes into account the qualifications required for the position, academic title (here we are hampered by the fact that only about 15 percent of all candidates and doctors of science actually work in production, and even these work mostly in the research organizations of specific sectors or divisions), length of service, and practical competence to undertake a given task.

Clear Criteria Needed

The wage rate, which is the essential foundation for replacing a given position in a given month, should be supplemented by an incentive component in the form of routine bonuses for task fulfillment for this classification of employee. These are not the extraordinary task bonuses which as a rule are awarded in certain crisis situations, when, as they say, there is a crisis to deal with. My recommendation for these situations is to pay out the bonus immediately, with a minimum of nonessential bureaucratic approval procedures, which normally extend to the upper echelons of management.

The other side of the coin is to sit down and determine what constitutes a sensible level for routine task-fulfillment bonuses. Currently when there is a crisis to deal with we know how to set the amount of extraordinary bonuses very rapidly, flexibly, and handsomely. There is no reason not to be generous. The resources are there to pay them.

Moreover, we need to minimize the number of quantitative and verbal indicators and criteria that determine when task-fulfillment bonuses are paid. These criteria must also be chosen in such a way that the affected employees can actually have an impact on whether the task will be successfully completed or not. We need to draft concise, clear and specific agreements related to ensuring plan objectives and to reaching an understanding between management and implementation teams on such points as: what? why? what for? where? when? how much? under what conditions? who? how?

Similar agreements should also be reached between enterprise management and the general directorate. This will help improve the strategic nature of enterprise management and goal achievement. The general directorate must also bear its share of the responsibility and must therefore be in a position to exercise its authority to see that its subordinate VHJ are working purposefully, and not just formally, in carrying out their job as an important level of management. These agreements must state as clearly and accurately as possible, even though this is very difficult to do 1-2 years in advance, the requisite material and value formation conditions, in particular the above mentioned amount of task-fulfillment bonuses, the bilateral conditions for paying them out, the allocation of the total bonus in specific stages, the designation of returnable and, in extreme cases, nonreturnable deposits, clear regulations governing increases in bonuses or for reductions in them that are tied to actual task fulfillment or that depend on an adjustment coefficient.

The distribution of the planned bonus pool must, in other words, be planned in a preliminary way at the time of the above agreements between general directorates, VHJ management, and implementation teams. This planning must be in the form of implementation guidelines for the bonus pool administrators, and other participants, including affected employees from marketing, delivery, production divisions and the like. Obviously this preliminary plan will have to be modified at each workplace to correspond as much as possible to actual work environments.

The actual level of task fulfillment bonuses, or their corrected level, will be determined by enterprise management based on the actual capabilities of the enterprise, enterprise objectives, national requirements and other considerations, all of which are combined with the fundamental consideration of the implementation team's actual performance. When making this decision management should confront the issue that a koruna spent on costs has the same value as a koruna allocated to wages!

In other words, we seem to tolerate spending large sums, often in the hundreds of thousands, on material costs, at the same time that we begrudge an extra 100 or 200 korunas added to someone's paycheck. Every organization has several such examples in its past and it is not a positive thing. We are trying to allow people to make a good wage for good work while eliminating freeloading and other tendencies.

Senior managers have an indispensable role to play here. These people need to think of themselves less and pay more attention to creating a work environment that will foster spontaneity, a feeling of satisfied self-actualization, and professional optimism, rather than pessimism. In addition, it is essential to recognize that unrealistic goals will go only as far as the shop foremen. Foremen who bring unrealistic objectives to their work team will not get the job done.

Two Types of Indicators

There is not enough room in this article to describe our proposal in detail, so I will concentrate on its specifics. We propose to distribute task-fulfillment bonuses as follows: after determining the number of participants in a given task a final, adjusted amount will be determined for the bonus for that task. Then the number of hours that each participant should realistically spend on the job will be determined. Work that is performed after hours will be handled through a correction coefficient. Then coefficients of inventiveness and creativity will be determined for each participant and the number of problem solving hours recalculated on this basis. The percentage of the total projected hours to be spent on the task accounted for by each participant is then calculated and each participant receives that percentage of the bonus pool.

The bonus pool should be distributed as follows: 30-50 percent should be paid out immediately after completing the research portion of the task, provided that schedules were adhered to and quality standards maintained, with the balance to be paid out after the research results have been put to practical use.

Obviously the most difficult part of this process is to establish an inventiveness and creativity coefficient for each participant. We suggest taking the following steps to define the criteria that should make up this coefficient. Every creative (and this includes technically creative) job has criteria for evaluating creativity. These include loyalty to the enterprise, years of service, hours spent at work, qualifications papers, academic degree. These criteria should be taken into account when establishing the basic wage for every creative technical employee.

We suggest that the following primary indicators be used for distributing the incentive components of wages (task-fulfillment bonuses): a) The entire problem solving or implementation team should designate an adjustment to be applied to the previously established bonus pool that reflects the technical parameters actually achieved, the quality and functionality of the product, and its economic characteristics (price, costs, labor intensiveness, etc.). Most significant are the completion schedule, target and actual, and whether the creative and production effort expended produced a product that met the target specifications. b) Individual participants are naturally judged by the above criteria first of all. Because, however, the share of a single individual in the achievement of overall technical parameters is difficult if not impossible to determine, specific criteria should be defined that will measure the impact of each individual on the final technical parameters, economic characteristics, and delivery schedule of a given product. What this indicator should measure is the quality of the individual's creative thought and inventiveness.

How does one measure this? While it seems to be an impossible and even absurd task, we feel that this is not completely so. We propose setting up a scale for measuring creativity and inventiveness which may include other criteria. The scale might run from 0 to 7 (analogous to 7 levels of innovation), or possibly from 0.1 to 10. In any event it should be possible to agree upon an approximate value, based on the profound personal knowledge of each team member by its foreman, along with work performance, test results, spot studies, self-evaluations, confrontations, etc. This figure will be relatively fixed, while other considerations (such as quality of creative work, decision-making speed) should be considered variable, in the sense that their applicability is tied to the specific stage of problem solving or implementation of the task in question.

There is a certain parallel here with programs to determine coefficients of work participation that exist in Bulgaria and the USSR. Such programs have existed sporadically in our country and have been used chiefly in conjunction with team forms of work organization and compensation. There is almost no experience in this country, however, with these forms of work organization and compensation in preproduction stages, i.e. in R&D, and production preparations. Because of this lack of experience our technique might be applicable to this area, if applied creatively.

Finally we want to make one more comment on the above mentioned correction to the bonus pool. This correction may be either progressive or regressive depending on how the end product conforms to technical specifications and whether the original schedule was adhered to or not. The adjustment coefficient should be clearly understood beforehand and should be in the range of 0.2 to 3.0.

The implementation of this technique will certainly increase paperwork somewhat. This workload can be offset to some extent by developments in data processing systems. If we are serious about eliminating equalization in compensation, the attendant costs would seem worth it.

The idea for this technique came from studies undertaken in numerous firms in five sectors of the SSR economy. The major research location was Bratislava Tesla, concern enterprise, especially for the study of management in preproduction phases. I have submitted the draft of this method to this firm for evaluation and comment.

The qualifications to the methodological approach in this article stem from our full realization of the difficulties faced during the implementation phase of any such program. What has been proposed here is, then, an experiment by which we propose to make a fundamental change in traditional thinking and conventional approaches to providing incentives for and motivating a specific classification of employees. The experiment is also proposed in hopes of providing inspiration for the creative application of collective forms of work organization and compensation in preproduction states, which we consider to be an important trend in the improvement of internal enterprise management.

Practical Applications of New Wage Systems

Prague HOSPODARSKE NOVINY in Czech No 34, 1986 p 7

[Article by Eng Milan Endryas, candidate for doctor of science, Vitkovice general directorate, Ostrava: "Improved Economic Efficiency of the Wage System; Implemented with Reservations"]

[Text] By now many organizations already have experience with phase II of the improved economic efficiency of the wage system program [ZEUMS]. As with anything new, there are problems with this program. In this article a senior manager of an important engineering economic production unit [VHJ] discusses some of the problems and some possible solutions.

The first enterprise in our concern that began preparations for phase II of ZEUMS was the Klement Gottwald Iron and Machine Works in Vitkovice. This firm was chosen because its character, structure and scale closely approximated most of the conditions present in other concern organizations. It is also a stable enterprise with a long history of excellent economic performance.

The Government Wage Commission determined that the Vitkovice Ironworks met all established conditions and criteria and permitted phase II of ZEUMS to be implemented there as of 1 Apr 1985. Based on the quality of our preparations the Federal Ministry of Metallurgy and Heavy Engineering [FMHTS] delegated to the divisional managing commissions of our concern authority to approve the implementation of this program in other organizations of the concern. Currently phase II of ZEUMS has been implemented in all organizations of the concern with the exception of the general directorate. We plan to implement it here as of 1 Jan 1987.

Change in Integration

Preparations for phase II of ZEUMS, above all in the area of wages, resulted in a number of problems and experiences which had to be dealt with. These preparations had a direct impact on individual employees and collectives and for this reason they had to be carried out very tactfully and sensitively.

For blue collar workers phase III meant changes in their positions on the wage scale. Implementing a product perspective, i.e. integrating products, machinery and equipment into wage scales depending on their sophistication and complexity, gave an entirely new dimension to the system of wage rates.

This was especially true of the Vítkovice Ironworks, which produces both metallurgical and machinery products. Blue collar workers in the machine building divisions particularly experienced significant wage rate differentials after phase II was implemented. While Level 3 of the wage rate scale was applied as the base rate for the entire enterprise, workers involved in production of some products found their wage scale one level higher, while workers involved in production of a large percentage of this firm's products began receiving wages that were fully two levels higher than the base.

So much differentiation in wage rates brought with it a number of problems. Above all, even in instances where the rate scale did not increase, the wage rate increased by so much that it proved impossible to cover the increases from existing wage payable resources. In some cases it was therefore necessary to make drastic changes in the structure of earnings. For instance, retaining the existing wage structure for the 5,289 employees of the Vítkovice Ironworks that were ranked at Level 5 of the wage scale by FMHTS edict No 2/1984 would increase their hourly earnings from Kcs 17.02 to Kcs 19.66. Such an hourly increase amounts to an increase in their monthly wage of Kcs 486, without any corresponding increase in output.

Therefore, in accordance with the principles of phase II of ZEUMS, we took steps to reduce bonuses and premiums by Kcs 0.79 in comparison with current levels, personal evaluation bonuses by Kcs 0.32, per task excess earnings by 0.15, and extra pay and preferential payments by Kcs 0.08. As a result, wages increased from 65 percent to 73.6 percent of total earnings. Even though most employees experienced a net increase in earnings, these changes were the source of numerous questions and comments.

Complicated Strategy

The organization of selected enterprises, plants, and operations complicates the inclusion of blue collar workers in wage scales. Most enterprises produce many different products that are in most cases placed in different positions on the wage scale. As long as each product is produced at a workplace to which the workers are loyal there are no problems.

However, many firms, plants, and operations have centralized operations on one type or another, whether they be machine shops, materials cutting shops or assembly lines set up for either piece work or repetitive production. In such cases individual employees perform work functions which fall into more than one production category and therefore into more than one position on the wage scale. As long as a given worker spends at least 70 percent of his time performing tasks that fall within one position on the wage scale, again there is no problem in classification. In all other cases however it has been necessary to classify blue collar workers based on actually performed work, as defined in supplement No 1 to edict No 2/1984 of the FMHTS, concerning compensation for blue collar workers.

One of the important objectives of phase II of ZEUMS was to simplify the wage system. This has not happened in the case of blue collar workers. At the Vitkovice Ironworks, for instance, prior to the implementation of phase II there were 6 wage rates. There still are 6 rates. There have also been no changes in regulations governing extra wages and preferential wages. Extra pay is still governed by a set of fixed rates (for work in hazardous environments, for work in high places, for working abroad, for leading teams, for working afternoon shifts, for working night shifts), as a percentage of the personal classification rate (for overtime work and work on Saturdays and Sundays), or as a percentage of total earnings (for exceptionally exhausting physical work). I am convinced that establishing a single base for all types of extra pay categories would go a long way to simplifying the wage system and making better use of available computing capacity.

Reevaluating Activities

Phase II of ZEUMS has resulted in many more changes in the compensation of technical-managerial employees. Above all, these jobs have been reevaluated and reclassified into more broadly defined functions and wage scales.

Initially an employee is classified into a base wage scale. He may move up to a higher scale if he is involved in more complex, responsible or difficult work, or if he displays excellent on-the-job performance over time. This has made it possible to differentiate wages significantly for employees engaged in the same function. It also provides for an increase of two steps in the wage scale for functions that naturally follow one after the other (this is not applicable to foremen). This causes problems when employees are reclassified, because increasing the pay of an individual by two wage rate levels while retaining the same structure of nonwage components of compensation does not always correspond to the amount and quality of work performed by that individual. This type of difficulty mostly occurs with employees who are classified in the basic level and are then promoted to a higher function. For instance, an entry level economist is rated in class 6, an expert economist in class 8, an independent expert economist in class 10 and a senior expert economist in class 12. In this example monthly earnings would increase from Kcs 500-Kcs 1,000 as one progresses from class 6 to class 12 assuming that nonwage compensation remains the same. Subtracting the nonwage components, the monthly increases would range from Kcs 400-Kcs 700.

The following problems occurred when actually reevaluating the activities of technico-managerial employees in preparation for implementing new wage conditions. At the Vitkovice Ironworks and Vitkovice Metallurgical Assembly concerns, where wage level II had been in force in line with supplement No 1 to edict No 2/1984 of the FMHTS, there was a very negative reaction to obligatory reclassification of individuals engaged in legal, social, personnel, administrative and computer technology activities into wage classification I (mandated by supplement No 1, Paragraph 1, sections b and c to edict of the federal ministry of labor and social affairs, [FMPSV] file no 51-12430-3156). For workers performing these functions this meant a decline in their monthly wages of Kcs 50-Kcs100 in comparison with their position prior to the introduction of phase II. This problem resulted

in a number of complaints at the enterprise, concern and central agency level. Currently the provisions of Paragraph 1, section b) of supplement No 1 to edict of the FMPSV, file no 51-12430-3156 have been partially modified by an opinion by the wages policy division of our ministry. There has as yet been no resolution of the computer technology and legal functions.

Reevaluating the wage scale position of workers in preproduction stages has also resulted in many problems. Designers and design engineers involved in work on equipment for surface and subsurface mining do not understand why these activities are classified differently in different sectors. In the fuel and power sector they are classified at levels III-V, while in our concern they are classified at levels I-III.

This conflict occurs for employees stationed at a customer's workplace, such as the North Bohemian Brown Coal Region. A field engineering team from the Unicov Machine Works is stationed at the coordination center in Bilina. This center is involved in installing large mining machinery, operating it, troubleshooting, dealing with emergencies and providing technical support to customers. The senior designer of large mining machinery is employed by our firm at wage scale 12 with a monthly salary of Kcs 3,000 while his counterpart makes Kcs 3,300 monthly at the North Bohemian Brown Coal Region. Both men perform the same tasks and work, moreover, at the same location and side by side.

The implementation of FMPSV edict, file no 51-12430-3156 in relation to compensation for technical-managerial employees and technicians resulted in an especially difficult situation. The new qualifications catalog, after all, gives the functions performed by technicians a rating that is one class higher than other technical-managerial functions. However, the function of chief technician is reserved at our firm for those engaged in establishing complex technical procedures for the manufacture of specialty steels and nonferrous metals, determining production techniques for nuclear power engineering components and for the most sophisticated turnkey projects--power plants, television transmitters, surface mining equipment, etc. The basic problem is that technicians involved in forming and machining, the overhaul of complicated power generation equipment, preparations for complicated construction projects, and the like, can be classified no higher than class 12, while the previously mentioned tasks and activities in other divisions can be placed in class 13. This places these technicians in a lower wage classification than they had prior to the implementation of phase II.

The rule that technicians involved in basic metallurgical production such as blast furnaces, steel mills and rolling mills must manage a group of workers is causing great problems for us. FMHTS edict No 2/1981 allowed employees with a college education to be in wage class 12 even though they did not manage anyone. It must be kept in mind that these individuals play a critical role in assuring the volume and quality of metallurgical output.

Phase II of the ZEUMS program has established objective criteria for wage differentiation. Wage rates have increased substantially and the wage structure has become more rational. In the future a top priority will be

complete implementation of the principle of tying compensation to the amount and quality of performed work. This objective can be met only if senior managers at all levels will evaluate their subordinate's work objectively. An objective assessment of the problems that arise will go a long way towards dealing with justified worker comments, especially those involved at the preproduction stages.

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CSO: 2400/410

ECONOMY

CZECHOSLOVAKIA

OBSOLESCENCE CITED AS CAUSE OF CAPITAL ASSETS' LOW EFFICIENCY

Prague HOSPODARSKE NOVINY in Czech No 35, 1986 p 5

[Article by Eng Jaroslav Novak, Ph. D., Czech Statistical Office: "No Benefits to Obsolete Capital Assets"]

[Text] Fundamental changes in capital asset replacement should occur in the current 5-year plan. Specifically, the quality of our capital assets should improve, while investment should increase at a slower rate than output (gross national product and national income). The history of capital asset replacement in the CSR over the past 10 years shows that this will not be an easy goal to achieve.

Qualitative considerations predominated in production-related capital asset replacement during the Sixth and Seventh 5-Year Plans. In reality, however, improvements in specifications for machinery and equipment lagged behind increases in physical volume and prices. During the past 10 years capital equipment valued at Kcs 524.5 billion in comparative prices has been brought on line. Average annual increases in installed value amounted to 5.4 percent. The value of nonproduction-related capital assets increased at a slower pace, namely 4.2 percent annually.

During the Seventh 5-Year Plan the average annual increase in the value of production related capital assets decreased moderately, from 5.8 percent to 5.0 percent. This decrease was concentrated mainly in the capital stock of the engineering sector (a decline from 8.7 percent to 5.6 percent). At the same time engineering sector capital assets increased from 40.7 percent to 42.0 percent of total production related capital assets.

This reduction in the intensity of production-related capital asset replacement in the Seventh 5-Year Plan is reflected in the investment coefficient (the percentage relationship of installed machinery and equipment investments to total machinery and equipment stock). During the Seventh 5-Year Plan this percentage declined from 6.6 percent to 5.4 percent. Our overall lack of success in rebuilding and modernizing production facilities exerts a negative influence on this figure.

Frugality in the Wrong Place

Despite the moderate reductions of the Seventh 5-Year Plan, our capital stock is still being added to at a rapid pace. This is clear from comparison with the growth rates of other macroeconomic quantities at both the input and the output ends of the production process. One of the reasons for this is the relatively low rate at which we are liquidating fully depreciated and obsolete machinery. The rate at which we retire such machinery has remained constant for a decade. This stems from an overall conservative attitude towards machinery and assets generally, namely that we are doing ourselves a favor by making them "last" as long as possible. Unfortunately, we need to change this attitude and place greater emphasis on the efficiency with which we utilize a given piece of equipment rather than on how long we have been using it. This is especially true today, when the pace of technical advances outstrips the useful life of state-of-the-art machinery and equipment. This makes it critical to remove from service machinery that may not be fully worn out yet.

The continued operation of obsolete and, in many cases, fully depreciated machinery and equipment preserves the status quo in the production process, thereby retarding scientific and technical developments. Older capital assets are less reliable and have an adverse impact on product quality and the introduction of new technologies. They are typically more costly to operate (in terms of their energy and raw materials requirements, as well as maintenance and repair needs) and are usually less environmentally acceptable. Such machinery also ties up excessive amounts of labor, as well as space in production facilities. Nor is their embodied labor and materials content (especially metals, but other materials as well) up to current standards.

Age Still a Great Handicap

The average age of capital stock in the CSR is relatively high. Currently it is about 20 years, declining by only about 1 year during the Sixth and Seventh 5-Year Plans. It is estimated that the average age of our capital stock is about 30 percent higher than in developed capitalist countries. Currently about 23 percent of our active capital stock is fully depreciated equipment.

During the Sixth and Seventh 5-Year Plans capital stock increased most rapidly in construction, retail trade, and agriculture. The capital stock of the electrotechnical, power generation, and wood processing sectors also increased noticeably. The structure of the capital stock in these sectors (i.e. the percentage of state-of-the-art equipment) also improved. The electrotechnical and power generation sectors were especially active in capital asset replacement and liquidation of obsolete equipment.

In terms of required changes in the structure of our economy the above trends are clearly positive. We must, however, speed up capital asset replacement also in traditional sectors based on domestically available raw materials. These include the food industry, printing, textiles, glass, ceramics and porcelain. Because of an aggressive stance towards liquidation of obsolete equipment, the average age of capital stock is lowest in construction and agriculture. The highest average capital asset age is in the freight transport and forest management sectors.

Slow Quality Increases

Changes in the qualitative aspects of capital asset replacement have been unacceptably slower than changes in capital asset volume. The technical sophistication of machinery and equipment may be measured on a scale of one to seven, with one representing machinery and equipment where people are the sole operators, and seven representing fully automated machinery.

Using this scale for assessing technical sophistication, in the past 10 years the rating of our capital stock has increased from 2.8 to 3.0, for an average annual increase of about 0.7 percent. Modernized machinery and equipment are assigned a value of 2.0, while a rating of 3.0 signifies partially automated machinery with some involvement of control mechanisms in the operating cycle.

Technical sophistication, however, is not the same in all sectors. The fuel industry, for example, utilizes almost twice the percentage of automated equipment as any other sector. The food, construction materials and printing industries, on the other hand, lag far behind the rest of the economy. Other traditional sectors have also experienced such slow increases, and temporary setbacks, in the upgrading of the technical sophistication of their capital stock. Examples include the leatherworking, textile, timber processing, and paper and cellulose industries. It should be added, however, that these industries now have relatively sophisticated capital assets. In contrast, the technical sophistication of the electrotechnical and other general engineering sectors is being upgraded rapidly, in line with objectives for the future development of the national economy's production base.

Technical sophistication of machinery and equipment does not involve solely improvements in operating and controlling electronics, which relate to the role of labor in their operation. The way in which new equipment processes and uses raw materials, energy and materials is also important. Improved technical sophistication as a rule involves qualitative changes as well in energy consumption, raw materials processing, etc. This is not the case, however, in all instances.

Moreover, qualitative considerations in capital asset replacement include more than the two aspects of technical sophistication above mentioned. The organization of production also affects machinery and equipment operations. The overall quality of supplier-consumer relations plays a major role here. This includes the reliability and timeliness of deliveries of machinery and equipment, product quality, the quality of the field engineering services involved in installing new equipment and making it operational, service support, the availability of spare parts, etc.

Low Levels of Utilization

A further important question is capital asset management, and mainly utilization levels. This involves both intensity of utilization, which is related to product sophistication, and extensiveness of utilization, i.e. what percentage of the time available a given piece of machinery actually operates. Statistics show over the long term our shift use coefficient has stagnated at about 1.3.

Only more costly, fully automated machinery achieves higher shift use rates. There are also significant differences between industries: shift use in the textile industry is about 1.13, while in the paper and cellulose industries it is about 2.58. For the Seventh 5-Year Plan, data on the utilization of machine work stations are also relatively stable. In industry as a whole work station utilization improved from 27.15 percent of the available time to 27.88 percent. Clearly, we have some significant improvements to make in our capital asset management, particularly since we have invested such significant resources in our capital stock.

Slow changes in capital asset sophistication, along with stagnation in the utilization rate of the capital stock are two main reasons for the long-term decline in the utilization efficiency of our capital assets. During the Sixth and Seventh 5-Year Plans capital asset utilization efficiency in the Czech economy declined by 28 percent, or an average of 3.2 percent each year. This figure is based on the ratio of national income to the average value of capital assets at their acquisition cost. This trend was apparent in almost all sectors, but most of all in construction and agriculture, even though these sectors have the lowest average age of capital equipment.

Fundamental Imbalance

The capital asset per worker ratio has, on the other hand, increased sharply. In 1985 it amounted to Kcs 321,000 per worker. It has increased by almost 6 percent annually over the past decade (in comparative prices). These opposing trends in capital assets per worker and in capital asset utilization efficiency clearly reflect the conflicts between the qualitative and quantitative aspects of capital asset replacement. There has been an increase in the amount of capital assets (and their value as well, although this has been hidden by price increases), that has not been accompanied by corresponding qualitative increases in specifications. Taken together with the low rate of increase in labor productivity over the past decade (an average of less than 2 percent each year) it is clear that our economy has been implementing slow, and highly investment intensive, technical advances.

This fundamental imbalance in our economy's production is both a cause and consequence of the prolongation of an extensive attitude to capital asset utilization. The rate of change in individual indicators has in the past diverged greatly from objectives. New investments and capital assets per worker have increased more rapidly than obsolete assets have been liquidated, while the capital stock has been underutilized in terms of time, thus causing utilization efficiency to decline. Ideally, increases in capital asset efficiency will increase faster than utilization rates, through a combination of new investments and liquidation of obsolete equipment. Moreover, the floor space devoted to production, as well as material requirements for the production of new capital equipment, should increase more slowly than in the past. Finally, there should be a decline in the number of workers needed to operate, either directly or indirectly, production equipment (especially workers involved in handling).

What About Labor?

The relationship between capital asset replacement and labor force replacement has become more important in conjunction with the need for speeding up technical progress and improving management. Currently more than 200,000 jobs remain unfilled in the general engineering sectors of the CSR economy. This means that for some time there has been no coordination between increases in available capital equipment and movements in the available labor pool.

The problem, however, is less that there have been only slow increases in the population that is of productive age, but rather that the existing labor force is tied to obsolete machinery installed at ineffectively organized production facilities, and that too much time is spent in labor intensive, unskilled, materials handling activities. This has occurred in part because of excessive past investments. The elimination of this conflict would make it possible to increase significantly capital asset utilization while reducing the capital asset per worker ratio.

Bringing the development of the labor force and the production base back into balance is not a matter solely for investment policy. Worker training and qualifications are also important. Gradual improvements in the occupational structure of blue collar workers and machinery operators have been achieved. The percentage of the work force that has been trained for the field in which they are working, or for a closely related field, has increased in the past five years from 42.9 to 46.6 percent.

The level of training and qualifications that has been achieved should not be evaluated in terms of existing technology, but rather in terms of future requirements. International comparisons are important here. These show that we have a relatively high percentage of high school graduates, but a lower percentage of workers with college education, especially in the engineering sector. In view of current and expected future scientific and technical developments, a high school education will no longer be adequate.

Making fundamental changes in the long-term trends in capital asset replacement will be neither an easy nor a short-term undertaking. Its success will depend on how well each workplace understands the new environment in which we operate and how well we are able to adapt to it.

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ECONOMY

CZECHOSLOVAKIA

CONCERN OVER HIGH PROFITS OF AGRO-CCONCERN SLUSOVICE EXPRESSED

Prague HALO SOBOTA (RUDE PRAVO SUPPLEMENT) 30 Aug 86 pp 1, 7

[Interview with Eng Frantisek Cuba, CSc, chairman of JZD Agrokombinat Slusovice, by Jan Lipavsky: "What's Your View, Comrade Chairman?"; date and place not given]

[Text] The JZD (Unified Agricultural Cooperative) Slusovice, bearer of the Order of Labor, is an agro-concern organization because it is developing pre-production and postproduction activities in addition to its own agricultural large-scale production and at the same time cultivating integrated relationships with other enterprises. The vast majority of the land which it farms lies in the foothills. Only a small part is located in the lowlands. Altogether it is about 6,000 hectares; more than 3,700 hectares are arable. It is well known that this cooperative with more than 3,000 members is achieving extraordinary economic results.

The following questions arise. Is the Slusovice system of management really acceptable? Do the Slusovice managers obey regulations in all their activities, both preproduction and postproduction (ancillary production)? Do management methods they practice not violate socialist principles? Is not the sole criterion for Slusovice simply profit and nothing but profit without regard for the genuine needs of society?

Let us try to get answers by interviewing the chairman of JZD Agrokombinat Slusovice, comrade Eng Frantisek Cuba, Csc, bearer of the Order of Labor. But let us say at the outset that our interview is not designed to answer all the questions which interest the public.

[Question] How do you feel in the job of chairman of the cooperative?

[Answer] I never have thought about how I feel in this job. Mainly because I never have the time for it. In JZD Slusovice I work roughly 12 hours a day, less on Saturday and Sunday--about 6 hours--and I have not had a day's vacation since 1963...

[Question] Do you not, perhaps, demand the same of your subordinates too?

[Answer] No, no. I insist that everyone stick to regular working hours and that people regularly take their vacation.

[Question] In your opinion, what is essential for you to make correct decisions as chairman?

[Answer] That I thoroughly discuss each important problem before a decision is made, and do so several times, with a number of co-workers who are familiar with the matter.

[Question] And, despite this, has it happened that sometimes you have made a wrong decision?

[Answer] It has because sometimes four out of ten decisions will be imprecise. But this is not an error in consultation. It is like this: when you are involved in new business, so to speak, you do not know most of the time how it will actually turn out. Even when many things are thought out in detail. It is only through practice that we can check out the quality of our decisions. That is the risk in introducing anything new.

[Question] What do you deduce from this?

[Answer] That we constantly need more information and better quality information. For this reason we also set up a center for scientific and technical information.

[Question] From what you have said, it seems to me that to date not everything in your organization is at the ideal level from the standpoint of management?

[Answer] It is not and cannot be because we must continuously look for and master the optimum solution. As you surely know, we have a program for introducing science and technology into large-scale production and management. We get various results of research from outside and we ourselves decide what can be accomplished locally. Therefore we have our own research, development, and experimental units, an independent information system, and psychological and sociological offices.

[Question] In your review magazine VEDECKOTECHNICKY ROZVOJ (No 3) you stated that you have not succeeded too well with decentralization of management, that directors of individual plants and operations supervisors accepted only decentralization of authority but did not accept to a sufficient degree the other consequence of decentralization: shouldering of personal responsibility. What is the reason for this?

[Answer] To put it simply, we still have not created a perfect entrepreneurial system which would lead everyone, in their own interests, to feel sufficiently responsible personally for everything he does.

[Question] What do you mean by an entrepreneurial system? That sounds a little strange...

[Answer] The managers, plant directors, operations supervisors, center chiefs, and technicians have precisely laid out rules for their conduct and the tasks which their decisions (after consulting with the collective) directly affect. In short, the manager and the entire collective are led by these rules, on the

basis of kholzraschet [cost-accounting system], to economize and learn how to utilize science and technology to take the minimum resources and to create the greatest possible value. They also have to know how to make some money for themselves. For this purpose they have at their disposal the prerequisites of maneuvering in relations with the JZD offices. In other words, they have room for enterprise based on material incentives and on the best results so that their management likewise reflects the degree of their work and creative activity, in terms of output, productivity of labor, savings in materials and energy, profit, and the utilization of R&D information.

[Question] How can you demonstrate that such a system can prove itself?

[Answer] The annual increase in productivity of labor for recent years amounts to 18.2 percent; we have increased the yield in cereal grains from 2.2 tons in 1960 to almost 7 tons. In 1980 we recorded yields of 4,787 liters of milk, and this year it was 5,922 liters. In fattening cattle, it is 1,003 grams per day as opposed to 595 grams in 1960. In 1960 output was worth 50 million korunas and last year it was 2,841 billion korunas.

[Question] Let us return to the question why the plant directors did not take on the corresponding degree of personal responsibility with the decentralization of authority? What you have just stated about your successes testifies to the opposite, does it not?

[Answer] This still does not mean that every director and every collective did everything for higher production and return on money or that each-fully utilized his authority and, particularly, stuck to his responsibilities. Moreover, an analysis of their work proved this to us.

[Question] What did it prove?

[Answer] Let us leave the individual aside and talk about an interesting discovery about our entire system of management. Formerly we used to start with an accounting system as the basis for management. From this we derived a management system, along with a system for motivating workers through material incentives for carrying out the tasks engendered by the accounting system. But this "model," so to speak, did not stimulate personal responsibility. Consequently we started to proceed in the opposite direction. We took a system of motivation (including the use of moral factors) as a basis and created the entrepreneurial system mentioned above. As we have already proven, this very system, whether you like that term or not, mobilized activity and with it individual awareness of personal responsibility.

[Question] You speak of some shortcomings in your operations, but in the 1984 brochure "Experiences of the Communists of JZD Slusovice" there is not even one line and not even one self-critical word about shortcomings in the communists' work. Are we to understand from this that all party members, without exception, are model figures in all aspects?

[Answer] No, I do not want to say that, but the fact is that the party organization itself points out weak spots in management and production. It is a mistake that this and other things were not included in the brochure, even though

it says in black and white that it is the party members who are pointing out to the cooperative management such inconsistencies, for example, the conflict between the development of production forces and that of production relationships.

[Question] How do you explain this and what are you doing about it?

[Answer] First of all, it is quite common, a general phenomenon, that the development of the production forces is more rapid than the development of production relationships. We see this everywhere throughout the country, in all fields.

[Question] And because of this, you are free of any obligation...

[Answer] On the contrary. We start with the idea that man is not and cannot be allowed to be just the object of management, but also its subject. He should take an active role in management. We therefore emphasize autonomous principles in the management of individual parts of our agro-combine and we emphasize the fact that every member of the cooperative has not only the right to speak up about the affairs of the cooperative, but should also regard it as his duty as manager and owner of the production resources.

[Question] Excuse me, but that sounds theoretical.

[Answer] In practice, this is reflected among others in the individual operations taking over the entire production equipment into socialist care and themselves deciding on their best use and on the level of production efficiency. The better they manage, the more resources they have for their development.

[Question] But what if your technician or other supervisor sees the work of the employee differently than the employee does?

[Answer] We are working toward a solution. We require, for example, that the technician always work a certain amount of time in production with his subordinates so that he knows their work and their views. We also give capable and talented people in production an opportunity to take the job of technician and other management employees. Moreover, everyone who comes to us from school must first go through the production process and start from scratch. They must work 12 weeks in production; four of these weeks must be in manual labor. A technician could take care of cattle and then the next 4 weeks he could get the job of, let us say, developing another method of handling feed.

[Question] How is it possible that you have created such a categorization of employees in which some are designated as implementors, others as entrepreneurs, some as self-starters, still others as husbandmen? According to you, as we read in the forementioned magazine, the implementors just carry out orders and instructions and satisfaction with work is of "minor" importance to them. Does this not degrade their personality and dignity?

[Answer] In my opinion, we are not the only ones who have people of this type in our midst. After all, a person who works only when he has a supervisor over him is really nothing more than an implementor isn't he? He shows no initiative, he has no interest in self-affirmation. He is simply passive...

[Question] But it depends on how you deal with him and whether you give him the chance and space to show initiative, does it not?

[Answer] Certainly this is true, but nonetheless we cannot close our eyes to the fact that there are people who are lazy about initiative, who are self-indulgent, for whom it is just a matter of carrying out their most basic duties and then goodbye, it's time to go home! But we do not beat these people with a stick. We create an atmosphere in the JZD which over a period of time forces the self-indulgent ones to do more than is their duty because otherwise they would look bad in the other people's eyes.

[Question] Well, for you much, if not everything, is based on economic persuasion.

[Answer] That is a really big mistake. A lot of people on the outside think that about us. We know, however, that material incentives or rewards can influence the activity of an employee only by about 25 percent, but in the social environment that we create, on the other hand, moral factors play an important role in work motivation. We also evaluate a person without regard to the job and functions that he carries out but according to what kind of farmer he is, how much initiative he shows, how he treats and deals with his subordinates or, in the case of workers, how he behaves toward his superiors, whether he is open to criticism, an honest man, etc.

[Question] Do you have no turnover at all?

[Answer] That is not entirely true, but the fact is that those who work with us for more than 3 years do not leave the cooperative. And that is the great majority of people.

[Question] What does the great majority mean?

[Answer] Of 3,260 permanent active members, a full 2,800 have been working with us for an average of 10-15 years.

[Question] What is the decisive factor in this?

[Answer] Many things: the work environment, opportunities for self-assertion and self-fulfilment, social issues, in other words an awareness of social security. For example, we cooperate with specialized medical institutes and we provide the needed medical rehabilitation for our members. We have a medical center and put great emphasis on hygiene and cleanliness in the work environment, which is a yardstick in the evaluation of supervisory employees.

[Question] I know that you have three cooperative kitchens, 52 snack bars serving cooperative meals, a health club, tennis courts, and a water reservoir. Your agro-service makes loans for personal autos, sets up freight transportation for cooperative members, organizes visits by cultural enterprises through the agro-public unit, etc. But do all the retirees also have an opportunity to make use of these advantages? As far as I know, around half of over 1,000 retirees are members of the so-called seniors' club which, among other things, means they can buy a meal in your cooperative dining hall for Kcs 2, even

though its value is Kcs 12. And what about other people? They would also like to eat at this price and to go on excursions at the JZD's expense...

[Answer] Everyone who has worked in the JZD for at least 10 years before retiring becomes a member of the club.

[Question] But what about someone who has worked, let us say, 8 years and does not have the advantages of someone who has 10 years work behind him...

[Answer] He can work for us for another 2 years or more. So that you will understand, we have an interest in stabilizing the work force in this manner and to cause them to remain true to the JZD. Also, the kind of actions that we are talking about are a decisive factor so that we basically have no problems with turnover. Because we take good care of people who are not club members as well.

[Question] And now for something different. Undoubtedly, you are entrepreneurs, but what does this have in common with serious efforts at entrepreneurship when you lease cows to another cooperative and demand their calves? This means that someone else is expanding your herd for you and it certainly costs you less than if you took care of the cows yourselves. Is this not self-interest?

[Answer] Look, that story is 5 years old, and actually it was a departure from our rules. We simply made a mistake; it was an attempt to find a way with another JZD to achieve higher utilization and it ended up as a fiasco for us. That JZD never gave us even one calf from our cows and basically it did not pay the lease payments...

[Question] What is your cooperation with other agricultural enterprises really like?

[Answer] We simply cooperate with those which are reliable partners and with whom we can jointly improve the development of agricultural production.

[Question] What is it like with your Soviet partners?

[Answer] For 2 years now we have been jointly working or cooperating with 5 sovkhozes in the Ukraine. Right now we are looking at joint corn harvests on 1,500 hectares in 4 sovkhozes. In return our Soviet partners sent us, as you may have read in the press, an assembly group which is right now putting up their greenhouses on 2 hectares.

[Question] What kind of average do you have in implementing the results of research?

[Answer] Of course, it varies, but we try to make it so that whatever is thought up this year is also implemented and brings a profit this year.

[Question] That is hard to believe...

[Answer] Because some people outside the cooperative judge us on the basis of erroneous or incomplete information. But, to address the issue, last year more

than 100 TNS [as published] microcomputers were employed in our JZD to process economic and social data and control production processes. Furthermore, we created seven independent microstructures for agricultural and machinery production and for microelectronics, agricultural biochemistry, chemistry, and for construction and processing of agricultural products. Each microstructure is involved with R&D and investment planning and each is fully occupied working with science and new technology. Why else would we have 963 high school graduates, 352 undergraduates, and 17 cooperative members with the title of candidate of sciences? Each is forced to do his share in R&D for implementing the results of research.

[Question] What do you mean "forced?"

[Answer] That means that each plant must submit the R&D information that it implemented to the cooperative technical council once a month. The collective referred to can gain a certain number of points, which do not, however, have any financial equivalent, but rather are a report about where people are placed, who is in first, second, third, and other places, in other words it's the aspect that matters, the competitive involvement. Only in the quarterly evaluations of individual employees can the collective see its competitive placement rewarded in terms of earnings as well.

[Question] And what happens if someone continuously lags behind and does not meet the requirements?

[Answer] He can be reassigned to other work for which he is suitable. This applies even to the directors of the plants.

[Question] You do not deny, however, that people are also concerned, if not primarily concerned, with good earnings.

[Answer] I do not deny this, but, on the other hand, the cooperative management sees to it that the money received as prizes in various competitions remains in the collective, for example in the form of well-equipped club rooms. This likewise reinforces the sense of collectivism and collective ownership and counters individualism and money-grabbing.

[Question] But in order for the collective to have such club rooms with a color television, a refrigerator, modern furniture, and carpet like I saw at a cattle feeding station, its operation must be making a profit. And what role do prices play in this? Prices, as we see in practice, can be speculative as well, artificially inflated and not correspond to the actual production expenses.

[Answer] In our case, this does not apply. We have a pricing unit which sees to an honest level of prices, and all prices which go outside the JZD must indeed be approved by the price office. It approves them, so there cannot be any talk of speculation with prices. As far as prices within the enterprise are concerned, the individual operations can mutually agree on intra-enterprise prices, but in 99 percent of the cases, these prices are set by our pricing unit.

[Question] Someone could, however, suspect you of going after those products which are most lucrative for you from the standpoint of prices. And possibly you give less attention to those products and activities which do not give you as much profit but could be very necessary for society.

[Answer] Those who suspect us of that are wrong. JZD Slusovice produces many products on which it does not make a koruna or even loses money, for example, the Vegetable Program in the Gottwaldov okres. At the same time, go take a look at our vegetable shops. Everywhere you will find a rich selection. Or we develop various services for the cooperative sector and for the individual citizen, of course, only when it is permitted by the appropriate national committee and if it is truly in the public interest.

[Question] So it looks as if you do not have any particular interest in making money and getting rich from these services.

[Answer] We have established the principle for services that if they bring in a certain profit everyone without exception is required to reduce the costs for those services down to a level where they show no profit. Their development is covered mainly from the profit made on other production.

[Question] If I understand you correctly, you compensate for losses in one activity with profits in others?

[Answer] How could it be otherwise? Otherwise, we could not guarantee the overall steady development of the cooperative, particularly in agricultural production on the basis of the latest knowledge of science and technology. And this costs a lot of money.

[Question] And what about your construction operations? Does this also lose money?

[Answer] It does not operate at a loss, but what we do, we do without profit.

[Question] Fine...But how much does your race track in Slusovice have in common with profit? How many of your cooperative members actually go horseback riding? And what good are the auto racers to you?

[Answer] In our opinion, all this is part of taking care of employees; not everyone has to go horseback riding, just so they can take part in organizing these large sporting events and they do participate. In fact, up to 1,500 of our cooperative members took part in preparations for and organizing the races in various functions. For them, it is...

[Question] Extra earnings?

[Answer] No, it is an enjoyable experience for them, an opportunity to prove their organizational abilities and to be co-creators of a large sporting event.

[Question] And the auto racers? Competitors need rest, they must train...

[Answer] They do not rest up, but have plenty to do as maintenance workers, repairmen, mechanics, and drivers; they simply are pursuing their trades and, when it is necessary, they help out in the harvest. Just like every secretary or every office worker, technician, or supervisor.

[Question] So you do not make any profit from the horse races or the auto races?

[Answer] We do not, but we do not lose anything on them either or we would be bad managers. Of course, if fewer than 30,000 people come to the races, we lose money.

[Question] It seems that everyone is equal among you without regard to position or job held. But do you not remove this equality between the cooperative members when you create a hierarchy of various social advantages between individual professions? Some have designated work hours and others do not; some have the advantage of going to seminar excursions outside the country and others do not. How does the common worker feel about this?

[Answer] First of all, only those who have been working in the cooperative longer than 3 years can go on excursions abroad, including workers. As far as working hours are concerned, each work area has them set according to the nature of work, but legal working hours must be maintained by everyone and it is a different matter that we have people whom we do not have remind of this principle and we leave it up to them as to when they work. In any case, they work more than 8 hours a day, as we have determined. It is altogether a matter of the top creative employees, experienced, reliable, and dedicated to their work and their professions. By giving them the opportunity to determine their working hours for themselves, we demonstrate our trust in them and, at the same time, we show the others that there does not have to be any sword or threat of some kind of punishment hanging over anyone. It is actually a stimulus to follow the example and to take on voluntary work discipline, which is possible, as is well known, only when work becomes a necessity for a person and he finds deep satisfaction and joy in it.

[Question] And there is also this question. You have been described many times as a successful cooperative. So it probably is not a problem for you to find understanding and support for your activities everywhere, at the appropriate institutions and offices.

[Answer] You mean to say by that that we benefit from favoritism.

[Question] No, you are the one who is saying that...

[Answer] In order to make this clear, in Czechoslovakia, all enterprises have the same rights and obligations. This includes JZD Slusovice. We have never implemented anything that would not be in accordance with the Czechoslovak legal code, laws, and regulations.

[Question] And how do you obtain hard currency resources?

[Answer] Like anyone else, by exporting products, not by any underhanded means, but rather through the organizations designated for that purpose, for example,

Zempo Prague, which holds an exemption from hard currency regulations. As far as I know, Zempo has the bids of foreign partners and it offers them for action to everyone. It is natural that we utilize those bids too since it is not just those of us in the JZD, but all of society, who benefit.

[Question] One more thing. Is it true that you rise and fall with ancillary production?

[Answer] Not at all, we are sticking firmly to livestock and agricultural production, which makes up the lion's share of our profit, our output, our productivity, and the return of our money. In fact, ancillary production is limited mostly to services rendered to other organizations. Among other things, last year we put together 1,200 microcomputers and provided the necessary software and maintenance, and not only to agricultural enterprises. We develop and produce agricultural machinery which is unavailable. We produce feed concentrates and biofactor supplements. We develop biochemical technology for production of biological insecticides. Our postproduction activities are directed mainly at refining some items of primary production in the interest of raising its utility and improving the market. These are the things that make up an agro-concern, but of course we should also add to these activities broadly developed integrational relationships with other enterprises.

[Question] Do you think, then, that you have suitably linked actual agricultural production to its preproduction and postproduction stages?

[Answer] Yes, we are convinced of that because we likewise apply the results of science and technology obtained in those stages in large-scale production. We see in this a natural, higher level in the development of socialist agriculture.

[Question] Thank you for the interview.

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ECONOMY

GERMAN DEMOCRATIC REPUBLIC

LEIPZIG BEZIRK COUNCIL DELIBERATES ENVIRONMENTAL PROTECTION

Leipzig LEIPZIGER VOLKSZEITUNG in German 12 Sep 86 p 3

[Report by Juergen Kramp, Dieter Altmann, Otwald Kattner, and Heidrun Enss]

[Text] The session of the Bezirk Parliament on Tuesday at Leipzig's New City Hall, at which the deputies decided on measures up to the year 1990 for environmental protection and water management, began at 900 hours and ended before 1600 hours. That is, it lasted just under 7 hours. But it was anything but wasted time. The things that were presented and discussed here in terms of empirical data, ideas, critical comments, and concrete measures naturally have an immense importance to our well-being and to the realization of social and economic goals. The report of the Bezirk Council which was given by the council member for environmental protection and water management, Heinz Lippmann, underscored once again our responsibility for coming generations as well: We must design the environment today in such a way that it also does justice to the needs of our grandchildren.

In the bezirk of Leipzig, with its coal mining and chemical industry, measures for environmental protection are especially urgent. The report of the council made it clear that in past years and decades a multitude of good results has been achieved. The redesigning of the post-mining landscape and other excavation areas is taking place according to schedule. At the same time as this, many outdoor swimming pools have sprung into being. Since 1949 the number of these outdoor pools has grown from 47 to 84 in the bezirk. The recultivation of areas used for mining is now proceeding at a rapid pace. There are also numerous measures for preventing pollution of our water bodies. These include the purification plants in Boehlen, Espenhain, and Leipzig, which are being further developed. Facilities for stack-gas desulfurization have gone into operation in Leipzig.

The report of the council emphasized that the measures on environmental planning and for the water supply call for a considerable growth in the national income. Therefore there is an increased responsibility on the part of the parliamentary bodies for the efficient use of funds and for the strict supervising of all environmental-protection measures. The Bezirk Parliament was strongly critical of the fact that garbage is being dumped in the vicinity of water bodies in some cases, and that motor sports events

are taking place in natural preserves, of all places, as happened this year in the Dahlen Heath area.

The report of the council devoted great attention to the measures for the prevention of air pollution. In many areas, through the use of capital expenditures for equipment considerable advances could be achieved. New filters, for example, were installed at the Deutzen briquette factory, at the Leipzig power plant "Georgi Dimitroff," and at the GISAG combine. Other measures are being taken at the briquette factories of Boehlen and Witznitz as well as at the new heating plant "Max Reimann" in Leipzig. In the future the prevention of air pollution must be governed even more by the use of scientific-technological measures, the Bezirk Parliament emphasized.

Concerning the drinking-water supply, it was revealed that the construction of the waterworks of Torgau-East is being continued resolutely. There are plans to explore for other groundwater reserves in the Muldenaue area and in the kreises of Altenburg, Leipzig, Oschatz, and Schmoeln, and to construct new waterworks in Delitzsch, Grimma, and Grossstoebnitz.

Hot on the Trail of Water Reserves

In the discussion, deputies and guests talked about what good experiences and resources there are in the efficient use of water and how nature and the environment can be cared for and preserved through a good partnership of all social forces. Deputy Dr Friedrich Wonsack reported to the plenary session on investigations of the Standing Commission on Planning and Territorial Rationalization in connection with the brown-coal works of Borna and Regis and on the waterworks of Hagenest. In this industrial area there are still unused possibilities for using strip-mining water. The deputies had already submitted proposals at the locality on how the material-technical conditions for repairing and maintaining water-management facilities can be improved.

Deputy Klaus Reichenbach pointed out that in the bezirk, 66 percent of the dust pollution and 77 percent of the SO₂ pollution are caused by coal and energy operations. Only through a more efficient use of the existing sources of energy--the studies of the Standing Commission on Energy have shown--can an increase in environmental pollution be avoided in the future. The deputies want to furnish quite concrete assistance in this area.

In preparation for the Bezirk Parliament session, the Standing Commission on Bezirk-managed Industry had visited enterprises that have a high water consumption. One of these was the beverage combine, which needs 43 million cubic meters of water annually, primarily for the making of beer and soft drinks. As the deputy Roland Wessling made known, through a building of new wells in past years the drawing of drinking water from the public system could be considerably reduced. The Altenburg brewery has managed to completely supply its own water.

Deputy Siegmar Hirsemann of the Standing Commission on Agriculture, Forestry, and Foodstuffs Management dealt with problems of the protection

of the soil and groundwater reserves. In this connection, he emphasized the importance of field timber cultivation. In the last 5 years, 11 hectares of field woods have been planted in the kreis of Borna by way of agricultural operations, and in the kreis of Delitzsch 6.3 hectares of such woods.

Carefully Protect Flora and Fauna

Reporting on how she answers for environmental protection in her work and as a successor candidate in the Standing Commission on Finances and Prices was Margarete Hennig, chief bookkeeper for the Jesewitz Crop Production LPG [Agricultural Producer Cooperative]. Her LPG is carrying out a multitude of environmental-control measures. For example, by way of an agreement with the specialist group on the protection of nature belonging to the GDR Cultural League, tasks on caring for the flora and fauna of the nature preserve "Woelpern Peat Fields" were established and jointly realized.

Dr Berthold Legler, successor candidate in the Standing Commission on Recreation and Tourism, entered into the influence of the social forces. In this connection he recalled the FDJ [Free German Youth] campaign called "Healthy Woods." In the activity of the local parliamentary bodies, the citizens' initiative "Tended Landscape--Tended Environment" backed by the Society for Nature and the Environment associated with the Cultural League should be given more attention.

The imaginative realization of the resolutions of the SED 11th Party Congress means in addition a thoughtful approach to nature, underscored Guido Thoms, deputy minister for environmental protection and water management. In his contribution to the discussion, he paid tribute to the results achieved in the bezirk and pointed out additional resources. Thus, he said, it is important to use new scientific-technological findings to a greater extent.

The 7 session hours of the deputies had thus been decidedly worthwhile. As a postscript to their conference, we convey to the representatives of the people the following interesting information: Research done by this newspaper's reporters showed that between 900 and 1600 hours in Leipzig on Tuesday, about 100,000 liters of water were consumed, of which 60,000 were used in households.

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GERMAN DEMOCRATIC REPUBLIC

NEW PROCESS RECOVERS HEAT, REDUCES COAL DUST SULFUR EMISSIONS

Leipzig LEIPZIGER VOLKSZEITUNG in German 9 Sep 86 p 3

[Article by Gisela Boldt]

[Text] December will mark the startup of the heating plant in Beucha, in which it is not simply a matter of coal dust being converted into heat for dwellings. In this facility heat can be withdrawn from the stack gas, which escapes into the air at a temperature of 180 to 250 degrees, and at the same time the gas is desulfurized. The entire facility is energy-saving and to a high degree nonpolluting.

The people who have invented this efficient procedure for stack-gas desulfurization, jointly with the Institute for Heating, Ventilation, and Fundamentals of Civil Engineering at the GDR School of Architecture, are employed at the Delitzsch Piping Technology VEB. For chief engineer Guenter Recha, director of this enterprise numbering 380 people, the facility in Beucha is an important step in utilizing our domestic sources of energy as efficiently as possible. He said: "The starting point of our considerations was the increased use of brown coal, regardless of whether raw brown coal or coal dust is in question. But in its conversion into heat, a draft three times greater than with other fuels is needed. Thus high smokestacks or special induced drafts must be created, both of which are expensive. We had to search for completely new solutions."

The Delitzsch people found these solutions jointly with their partners from the architectural academy and from the Automatic Steam Equipment VEB, with whom they have maintained close relations for years now. And what they invented is "perfect." By way of a certain piece of accessory equipment, which can be used on both existing and new facilities of any boiler type with any fuels desired, the threefold effect now being achieved in Beucha is realized: Substitutes can be made for more high-grade fuels such as briquettes or gas. Generated energy that previously was very largely wasted is utilized, and environment-polluting contaminants such as sulfur and dust are washed out. Thus it is no exaggeration to say that pure white smoke will pour forth from the smokestacks of heating facilities operated in such a manner.

This process is intended above all for smaller and intermediate facilities. Our comrades in Delitzsch have calculated that in our bezirk alone it can

be applied in about 600 heating stations. But the Delitzsch Piping Technology VEB cannot produce such facilities itself, because as a specialized construction enterprise of our bezirk construction office, its tasks lie wherever heat and water are the concern. But the collective around Guenter Recha has prepared the documentation for interested parties in such a way that any means-of-rationalization construction work can retrofit the in-house or regional heating station itself.

This "Efficient Process for Stack-gas Treatment" is not the first major energy-economy success with which the collective of the Delitzsch Piping Technology VEB has caused a stir. For example, it has developed a solar collector and is the only enterprise in our republic that produces this. With it, solar energy for industrial or agricultural drying plants, greenhouses, or owner-occupied dwellings is no utopian dream.

For many, the Delitzsch piping engineers are a synonym for the use of heat pumps, for which drinking water, waste water, or even ambient energy serve as heat sources. And let us mention a third thing--the use of heat of compression. A heat exchanger developed at the Halle Machinery Factory makes it possible, wherever cold is generated, to utilize about 10 percent of the heat generated in the cooling process.

In the last 8 years, the Delitzsch people alone were able to apply for 18 patents on such developments. Yet they are a relatively small production outfit, with numerous construction sites. For 14 years they have been fulfilling all target tasks without exception. Guenter Recha stresses this and adds that whoever wants to devote himself successfully to advance work must simply be unburdened by the everyday worries about fulfilling the plan. There is no doubt that his colleagues at the Delitzsch Piping Technology VEB want to keep it this way in the future as well.

A final question to comrade Recha. Do the Beucha people need to have misgivings that the contaminants washed out of the stack gases are disposed of by water--in other words, into the lake? The dry comment: "That would indeed be nonsense." And a serious amplification: "The solid noxious components will go to a regularly managed disposal site."

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SUMMARIES OF MAJOR EINHEIT ARTICLES, AUGUST 1986

East Berlin EINHEIT in German Vol 41 No 8, Aug 86 (signed to press 14 Jul 86)
pp 674, 767

[Summary of article by Prof Dr phil Hannes Hoernig, member of SED CC, SED CC department head; and Prof Dr sc jur Gregor Schirmer, deputy department head of the SED CC, pp 693-700. A full translation of this article is published in this report]

[Text] Results and Tasks of Sociological Research

The 1986-1990 central research plan for GDR Marxist-Leninist sociology will build on the positive results and progressive performances achieved in the past plan period. Consonant with the resolutions adopted by the Eleventh SED Party Congress, it orients research to even more comprehensively and thoroughly conduct research with regard to the developmental trends, inevitabilities and motive forces of socialism as a uniform social organism, to creatively advance and persuasively spread Marxist-Leninist doctrine. The unity of theory and practice as a vital criterion for scientific quality.

[Summary of article by Prof Dr sc oec Helmut Koziolek, member of SED CC, director of the Central Institute for Socialist Management at the SED CC, chairman of the Council for Economic Research, member of the GDR Academy of Sciences, and member EINHEIT editorial board, pp 701-708. A full translation of this article is published in this report]

[Text] Our Economic Strategy with a View Toward the Year 2000--High Demands on the Economic Sciences"]

The Eleventh Party Congress assigned economists the task to further study the conditions for the implementation of our party's economic strategy for the further organization of the management and planning of our national economy. The specific tasks arising therefrom and stated in the central research plan range from fundamental problems of the political economics of socialism via issues of

scientific-technical progress and socialist management to such questions as social policy and demographics (among others). How does the Council for Economic Research promote these efforts?

[Summary of article by Prof Kurt Tiedke, member of SED CC, chancellor of the "Karl Marx" Party College at the SED CC, chairman of the scientific council of the "Karl Marx" Party College at the SED CC, member EINHEIT editorial board, pp 709-714]

[Text] The Growing Leadership Role of the Working Class and Its Marxist-Leninist Party

Conclusions are drawn from the Eleventh SED Party Congress orientation with regard to the further development of the Marx-Leninist theory, in particular the doctrine of the revolutionary party of the working class, and key issues of future scientific efforts are elucidated--the political leadership of social processes, the dialectic of socialist social development, the party's combative strength and its ongoing reinforcement.

[Summary of article by Prof Dr phil Erich Hahn, member SED CC, director of the Institute for Marxist-Leninist Philosophy at the Academy for Social Sciences at the SED CC, chairman of the Scientific Council for Marxist-Leninist Philosophy, member of the GDR Academy of Sciences, pp 715-720]

[Text] Challenge to the Philosophers of Our Country

The preservation of world peace and the qualitatively new stage in the organization of the developed socialist society in our country require a high standard of the masses' conscious historical activism. What are the tasks arising therefrom for philosophical scholarship and ideological propaganda? What needs to be done to affect the reinforcement of the intellectual potential of the forces for peace? What are the ideological challenges arising from the economic strategy, what philosophical issues need to be more thoroughly studied and made to bear fruit in ideological work?

[Summary of article by Prof Dr phil Ernst Diehl, member SED CC, deputy director of the Institute for Marxism-Leninism at the SED CC, chairman of the GDR Council for the Science of History, member of the GDR Academy of Sciences, pp 721-727. A full translation of this article is published in this report]

[Text] History--A Source of Strength for Further Advances

The Eleventh SED Party Congress decisions, aiming far in the future, represent a significant challenge to the science of history also. High demands are therefrom on the scholarly standard and the efficacy of research and propaganda, on the responsibility of historians. They require us to comprehensively develop the knowledge of history, its experiences and teaching as a source of strength for the consolidation of socialism and the preservation of peace. What has been achieved since the early 1980's, what needs to be further pursued and tackled afresh?

[Summary of Article by Prof Dr phil Max Schmidt, Director of the Institute for GDR International Policy and Economy, chairman of the Scientific Council for Imperialism Research, member EINHEIT editorial board, pp 728-733]

[Text] Research at the Service of Peace and Progress

The basic tasks for imperialism research for the forthcoming period--the smooth flowing further pursuit of earlier studies and qualitatively new demands arising from the development of the international situation as well as from new manifestations and processes of modern-day imperialism. What are the emphases with regard to the scientific contributions to the struggle for peace--very much in the foreground of our efforts--as well as studies of the general crisis of capitalism and of imperialist strategy?

[Summary of article by certified economist Horst Siebeck, member of political staff of SED CC, pp 736-740]

[Text] Mongolian Communists Adopt Ambitious Objectives

The report by the Nineteenth MRPP Party Congress on the successful socialist construction--a sound foundation for the realization of the challenging objectives for the period 1986-1990. What accepts did the party congress set with regard to the further active foreign affairs efforts by the MRPP in the service of peace? The Mongolian Revolutionary People's Party--armed for the tasks required in the forthcoming stages of the country's development.

[Summary of article by Prof Dr phil Gisela Jaehn, deputy department head at the Institute for Marxism-Leninism at the SED CC, pp 741-746]

[Text] They Shall Not Pass!

The selfless commitment of many thousands of communists and other antifascists from all parts of the world, who fought against fascism and war, for peace and freedom, 50 years ago at the side of the Spanish people, is unforgotten. The courage and self-sacrifice of the "volunteers of freedom," united in the International Brigade, represent a luminous example of proletarian internationalism, active solidarity and true patriotism. Firmly rooted in the traditions of the worldwide antifascist and peace movement, their legacy is observed in the GDR.

[Summary of article by Dr Joachim Funke, member of the SED Central Auditing Commission and general director of the State Combine for Data Processing, pp 747-754. A full translation of this article is published in this report]

[Text] Rational Production and Software Utilization

Software production--in combines especially--assumes increasing importance for the efficient use of automation. How may we best carry out the tasks of adult education linked therewith? How may we even more efficiently use the benefits of our planned economy for the rational production and use of software?

[Summary of article by Prof Dr Lutz-Guenther Fleischer, vice president of URANIA, pp 755-760]

[Text] Key Technologies and Their Challenges to Intellectual-Cultural Standards

Key technologies represent the latest and revolutionizing perceptions of science. The author explains that their development, application and mastery offers a great challenge to the intellectual-cultural standard of the working people, their education, technical, economic and ideological knowledge, their creativity, personal commitment and the readiness to keep on learning.

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SOCIAL SCIENCE RESEARCH, ECONOMIC DEVELOPMENT LINKED

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pp 701-708

[Article by Prof Dr Helmut Koziolek, member of the SED Central Committee, director of the SED Central Committee's Central Institute for Socialist Economic Management: "Our Economic Strategy With a View Toward the Year 2000—High Demands on the Economic Sciences"]

[Text] The economic strategy with a view toward the year 2000, adopted by the Eleventh SED Party Congress, provides the basic direction of economic science research through 1990 and beyond. "The unity of economic and social policy is the chief battlefield. We advocate continuing on this course. In this context our attention is devoted specially to those sections of the economy that decide the speed of advance."(1) By this statement, Comrade Erich Honecker, general secretary of the SED CC, emphasized the intimate connection between economic growth and social policy. He stressed continuity as well as the necessity to further deepen the qualitative changes already initiated in our economy, "such as arise in particular from the broad application of the key technologies and the resulting greater efficiency."(2)

The new quality of our economic strategy is exemplified by the mastery of key technologies and the resulting speed-up in the development of labor productivity by way of intensification. It is directly linked with the role of man as the main productive force. Production is intensified and labor made easier for his benefit. This new quality of the economic strategy is demonstrated in all ten of its key points; it touches upon all fields of economic research.

Based on a clear theoretic concept, founded on the doctrines of the classics of Marxism-Leninism, the resolutions of our party--specially the 1981-1985 central research plan of Marxist-Leninist social sciences in the GDR--as well as resulting from the work of the scientific council for economic research at the GDR Academy of Sciences and its 14 main sectional councils, important contributions were made in the past 5-year plan period to the implementation of the economic strategy for the 1980's. Knowledge was acquired and developed for application by day-to-day economic operations with regard to the

- Use of key technologies in the combines;
- Socialization of production and labor, in particular the consolidation of the combines, the improvement of the efficiency and flexibility of their production and the entire reproduction process as well as the work of cooperatives in agriculture;
- Perfection of management, planning and economic accounting;
- Development of the intellectual potential of the working people as a result of their higher standard of skills and their growing initiative and readiness to perform.

They were also important for the further improvement of theoretical work that obtained considerable impetus and a clear orientation especially by the 1983 Conference of Economists.

The Eleventh SED Party Congress has now challenged us economists to study "the conditions for the implementation of our party's economic strategy for the further organization of the management and planning of the national economy." (3) The work of economists is expected to yield results with regard to the demands and motive forces of economic growth arising from the ongoing speed-up of scientific-technological advances and comprehensive intensification. The analysis, explanation and propagation of the values and benefits of socialism need to be strengthened. Complex and interdisciplinary studies are gaining increasing importance with respect to the relationship between the smooth and dynamic rise of the national economy's performance and the realization of sociopolitical objectives, above all the ongoing improvement of the material and cultural standard of living of the people in our country. These studies must appropriately consider the interaction between the economy and the various social spheres, the reciprocal permeation of science and production, and conclusions relating to the training and continuing education of the working people need to be drawn therefrom. We will thus contribute to the further elaboration of the reproduction doctrine and assist the perfection of intensively expanded reproduction.

The 1986-1990 central research plan of Marxist-Leninist social sciences also exactly lays out the tasks for economic science. This applies to the general line of development for the economic disciplines or fields as well as to the concrete research projects listed in the main research orientations. The spectrum of tasks ranges from basic problems of the political economics of socialism via issues involved in scientific-technological advances and socialist management to questions of social policy, demographics and economic safeguards for national defense. Their concrete contribution to the development of the productive forces is an important aspect of all these economic studies. It is therefore quite imperative to strive for closer cooperation among economists, the scientific institutions of our party, academies, universities and colleges with business life, in particular the combines and central state organs. Increased cooperation on a contractual basis will greatly help to arrive at results affecting business practice.

What are the key issues of economics research we should concentrate on from the standpoint of the economic strategy adopted by the Eleventh Party Congress?

1. We must more thoroughly study how we may even more effectively use the economic laws by the ongoing perfection of socialist production conditions and the growing dynamism of the development of the productive forces, even more tightly link the advantages of socialism with the achievements of the scientific-technological revolution that itself has entered a new phase. How may we thereby guarantee the smooth and dynamic rise in the performance of the national economy and lastingly organize comprehensive intensification? Research must contribute to the deepening of the qualitative changes initiated in our economy. It will be of particular concern even faster than before to proceed with the development and production of top level products on a broad basis. The Second SED CC Plenum stressed the orientation to world top level performances--resolved upon together with the complex program of scientific-technological progress for the CEMA member countries--as a political-strategic issue of the first order. Indeed, the speed and breadth of the development of key technologies are now quite decisive. Involved here in the truest meaning of the term is the economy of time by way of the quantitative and qualitative development of output.

This makes it necessary to settle such problems as that of not merely achieving top international standards in selected fields in briefer delays than earlier contemplated but being ahead at least one step, each year accomplishing the greatest possible performance growth, coping with a growing assortment and flexibly responding to technical innovations.

In this spirit we are working on such topics as "basic political-economic issues of socialist economic integration in the conditions of comprehensive intensification of production and the speed-up of scientific-technological progress."

Special attention is due the studies of the national utilization of key technologies and the transfer to production of new scientific knowledge. This includes, among other topics, microelectronics, modern computer technology and the computer assisted design, planning and control of production as well as flexible automated manufacturing systems, new processing methods and materials, biotechnology, nuclear energy and laser equipment. All this presents a tremendous challenge to the science of economics to contribute in 1986-1990 and beyond through the year 2000 to the realization of the main orientations and key points of natural science and technology affecting the future. The accelerating development of the productive forces requires us to redefine reproduction theoretical connections and examine how to cope with the qualitatively new processes of the material-technological basis and the changes in the nature of labor. All main sphere councils will work on these issues, in particular the Scientific Council for the Political Economy of Socialism and the Scientific Council for Economic Questions of Scientific-Technological Progress.

The studies in preparation include, among others, those

- On the increasing influence of the growing dynamism of the development of productive forces and the scientific-technological revolution on the operating mechanism of the economic laws in the organization of the developed socialist society and the demands on the development of the subjective factor;
- On the economic issues and tasks of the national utilization of key technologies from the aspect of reproduction theory;
- On the ideological and intellectual-cultural tasks involved in the development of the performance behavior of working people with regard to mastering the key technologies;
- On management methods for raising the economic and social efficacy of science and technology and shorten the cycle research, development, production and sales;
- On ways and methods of the most efficient use of modern computers for flexible automation and the availability of flexible computer backed data for the management and planning of socialist enterprises and combines.

2. Another priority for economic research consists in a contribution to the speed-up of the development of labor productivity. Many diverse factors are involved in the improvement of labor productivity, and the range of economic studies on this topic is similarly wide. It begins with the definition of the political-economic term and its substance, goes on to the connection between live and embodied labor for the ascertainment of labor productivity, questions involving managerial measurement and the stimulation of increases in labor productivity and ends with international comparisons. The introduction of flexible automated manufacturing sections, for example, needs to result in specially important productivity growth in order to ensure the economic efficiency of this automated production. Ultimately it is live labor alone that creates new values. The question of its efficacy, the utilization of the intellectual potential--for the development of the material-technical basis also--is therefore of special importance. Lastly the speed-up of labor productivity also implies the need even more consistently to act in accordance with the law of the economy of time. A future council meeting will deal specifically with the theoretical and practical implications of the improvement of labor productivity in the conditions of comprehensive intensification.

Studies and books are being prepared mainly with regard to the following groups of topics:

- Labor productivity, technologies and creativity;
- The interrelation between economic growth, the improvement of efficiency and labor productivity, and the guarantee of proportionality in the conditions of comprehensive intensification;

- The economic and social requirements of complex automation for the improvement of labor productivity;
- The contribution of microelectronics and other main trends of scientific-technological progress to the comprehensive intensification to the GDR's national reproduction process;
- Economic and social aspects of the development and application of biotechnologies;
- Experiences and problems of the development and introduction of CAD/CAM systems;
- Ideological, economic and social consequences of the use of computer aided work places in research, development, manufacture and administration with regard to the improvement of the efficiency and productivity of labor coupled with the utilization of the benefits of socialism.

3. The need to guarantee production growth accompanied by reduced costs of raw materials and other materials as well as energy makes quite special demands on economic research. Economists are challenged to contribute to new possibilities for as economically as possible organizing the use of energy, raw materials and other materials in the national economy as a whole and in the enterprises. Our studies will therefore concentrate on the economic effects of advanced processing, the extensive use of domestic raw materials, secondary energy and secondary raw materials, energy rationalization and materials management, new requirements of environmental reproduction, the appraisal of conservation potentials and the development of the material-technical conditions needed for all this. Precisely these conditions are of prime significance for economic growth. They are linked most intimately with the use of key technologies. All these topics are dealt with by the pertinent main sectoral council and socialist management science. Other councils are pursuing scholarly investigations of fundamental theoretical issues relating to the connection between use value and value of advanced processing, the interrelation between the total social production, the national income and production consumption.

The most diverse studies are being carried on, for example on

- The improvement of efficiency by much more highly processed products and technological procedures;
- Interaction between product renewal and the development of production consumption;
- Economic problems arising due to the intensification of the use of domestic mineral raw material resources.

4. As the result of the development and wide application of key technologies, new demands arise with regard to a guaranteed high product

quality. This relationship is reciprocal. On the one hand, the use of key technologies facilitates the achievement of a fundamentally higher quality standard. Computer aided design, for example, permits the production of virtually fault free drawings. On the other hand, though, key technologies require impeccable human labor. To guarantee that, proper training must continue until operations can be carried out with exactitude.

Here also the broad field for economic research comes into our purview, beginning with issues involving science and technology--because this is where the standard of quality is first decided--, via scientific labor organization to the stimulation of quality output and the conduct of the competition. The movement "zero fault production," the guarantee of quality, general attitudes to quality work--all these are topics of fundamental importance for economic research and, above all, concern the management of our economy.

We are therefore concentrating research on the

- Elaboration and implementation of innovation strategies in the combines;
- Experiences and approaches to the perfection of the organization of intensively expanded reproduction in the combines for the accelerated development of production and increased flexibility;
- Scientific-technological innovation processes and the speed-up of intensively expanded reproduction.

5. It is imperative to further raise the status of socialist rationalization in economic research. After all, this is one of the principal approaches to the improvement of labor productivity. Characteristically, socialist rationalization is increasingly affected by modern methods. Internal rationalization aid construction is converted to a center of modern technologies. That is a challenging task and requires more intensive economic research. This key issue gains crucial importance also by the fact that socialist rationalization offers a large field for the creative involvement of workers, scientists and technicians and also serves the improvement of working conditions. The Schwedt initiative is an example of the productivity and personality enhancing humanist nature of rationalization in socialism. Many aspects of economic research, science and technology, social policy and demographics as well as the socialist competition meet at this juncture.

On the basis of scientific investigations we will discuss next year the demands arising for socialist management from modern information equipment and technology.

Of particular importance are such topics as

- Analytical-conceptual studies on enforcing the criteria of comprehensive intensification and the greater efficacy of science and technology coupled with conclusions for the further perfection of planning;

- Labor union tasks involved in the organization of working and living conditions and health and safety aspects in the process of socialist rationalization.

6. By improving the efficiency of labor, the economic strategy touches upon one of the fundamental questions of economics: How can we improve the cost/profit ratio? This involves theoretical problems of the definition of efficiency in socialism and at the same time addresses practical issues. The measures on the perfection of management, planning and economic accounting are being purposefully realized. They provide us with well tried tools and experiences of central planning and balancing, performance appraisal according to the four main indicators as well as of economic accounting. This organization of management, planning and economic accounting has been proven an essential element in the forward movement of material production. It is one of the tasks of economic research to further cooperate in the perfection of management, planning and economic accounting. It will be necessary even more emphatically to insist on lower costs, the capacity utilization of capital assets, the utilization of working hours. We must therefore continue our efforts to improve the unity of material and financial planning and balancing as well as the efficacy of performance appraisals and performance comparisons by combines and enterprises in the process of plan drafting and implementation. Computer aided balancing must be assigned special importance in economic research.

In the foreground is work concerned with

- Bases for the long-term development and effective use of the social labor capacity in the national economy, the regions and the combines;
- Bases for the improvement of the efficacy of the labor capacity and for the stimulation of outstanding work performance with regard to comprehensive intensification;
- Bases of and approaches to the rational use of the labor capacity in combines and enterprises in the conditions of the use of modern equipment and technologies as well as the observance of scientific labor organization;
- The efficient use of the intellectual potential in the combines;
- Consequences arising from the flexibility of production for the development and deployment of the social labor capacity.

7. Economic research in the field of investments must be directed mainly to the connection between the modernization of fixed assets with new projects for top class equipment. The proper organization of the proportions, the siting of the productive forces in the region, are just as important as management considerations of transportation, handling and warehousing processes or the combination of research, development and investment. All this involves main trends of the qualitative perfection of the material-technical basis. In this context, we are aiming at dealing with the following topics:

- Basic political-economic problems of the perfection of management, planning and economic accounting;
- The further increase in the active role of finance in the process of the comprehensive intensification of expanded reproduction;
- The further perfection of the industry price system as an element of management, planning and economic accounting in the conditions of comprehensive intensification;
- The use of the input-output table in physical terms for the preparation of long-term strategic and operational balance and plan decisions;
- Contributions to the further development of analysis of selected spheres by accounting and statistics management, taking into consideration the future development of data processing.

8. The objective of socialist production underlines the fact that the stronger development of consumer goods production is a fundamental task that confronts economic research also. We need research results from the national aspect and with regard to the development of need complexes from the aspect of the combines in order to develop an efficient production of attractive and high quality consumer goods in a large volume. Required at the same time is research concerning the stimulation of consumer goods production and the material responsibility for the fulfillment of plan indicators in this field. We must always bear in mind that consumer goods production in combines that used to predominantly manufacture capital goods is not a temporary phenomenon but a fundamental trend in the organization of our structure. Useful research results relating to all these problems of consumer goods production are urgently needed precisely because the development of the working people's readiness to perform largely depends on the standard and volume of the consumer goods available.

Investigations are proceedings mainly with regard to

- The role of consumer goods production in regard to the basic economic law of socialism, the implementation of the socialist performance principle and the system conflict with capitalism;
- The trends in the development of needs, interests and value orientations as motive forces of social activism.

9. The economic strategy emphasizes that the greatest possible economic growth represents the prerequisite for the accomplishment of our sociopolitical objectives. Great economic growth is necessary in all sectors of the economy, in industry, construction, agriculture and other sectors of material production. This basic feature of the economic strategy will be a key topic in the work of all councils and all economic research institutions.

This economic growth in our country was, is and always will be largely affected by our close economic cooperation with the USSR and the other CEMA countries. That is why economic research must stress the tasks involved in

deepening socialist economic integration. Research must contribute to the development of a new quality of cooperation among the CEMA member countries, specially on the basis of the resolutions adopted by the Eleventh SED Party Congress and the Twenty-seventh CPSU Party Congress. We must focus on analyses of the interactions and the influence of international cooperation on the comprehensive intensification of social production in the GDR as well as on the demands arising from the intensification strategy of the USSR and other CEMA countries on the GDR's economic relations with the countries of the socialist community.

In concrete terms, this entire complex of economic growth involves concern with

- The social objectives and effects of the economic strategy;
- The interaction of intensification and lifestyle in the organization of the developed socialist society;
- The unity and interaction of economic and social efficacy and the improvement of labor productivity as the motive force for the further definition of the intensive reproduction type.

10. Our economic strategy orients to the deepening of intensively expanded reproduction. It is one of the fundamental tasks of economic research to analyze internal and external development conditions, draw conclusions therefrom and submit proposals on the solution of matured problems.

Decisive here are studies relating to the acceleration of the economic circulation in the combines with the objective of achieving the greatest possible productivity and efficiency. Combines and their enterprises have proven their worth as the modern type of the management of large-scale socialist production and the backbone of socialist planning. They are therefore at the center of attention, on the basis of democratic centralism. Research efforts mainly concentrate on the ongoing development of the combines as a new and higher level of the socialization of labor in the organization of the developed socialist society and on the consolidation of their management, planning and economic accounting. Our work is consistently based on the assumption that it is our basic task to organize the reproduction process of the combines so efficiently and flexibly as to ensure the renewal of production to the best possible economic effect.

Nor are we concerned only with material and financial factors. Our superiority vis-a-vis the capitalist production method ultimately depends on our working people's behavior as producers and owners, on our success in balancing the interests of society with individual interest and thus objectively utilize the benefits of socialism for coping with the achievements of the scientific-technological revolution.

Intimately linked with the above are the issues of social processes, above all the creation of satisfactory conditions for encouraging the initiative of the working people, scientific-technological top performances and the development of socialist personalities and collectives. Research in the field of the

socialist competition assumes great importance here. It concentrates on the role of the competition as the driving force of scientific-technological progress and the political action of the working class and all working people. We are studying how the socialist competition proceeds in the conditions of comprehensive intensification as the process of the continuing definition of socialist democracy in combines, enterprises and cooperatives. Later this year, a council meeting will deal with theoretical questions regarding the improvement of the management of the reproduction process in the combines. We will focus in particular on the generalization of positive experiences and the conclusions arising therefrom.

The work done in this field focus on

- The preparation of the college manual on the political economics of socialism;
- The developmental trends of economic growth with regard to the comprehensive intensification of the national economy in the 1990's;
- The general diagram for the regional distribution of productive forces;
- The development of the interlinking of agriculture with other sectors of the national economy;
- The demo-economic resources and aspects of requirements involved in the further organization of the developed socialist society.

The challenging tasks for economists arising from the 1986-1990 plan of the Marxist-Leninist social sciences call on them for even greater performances. At the same time the tried and tested types of research work, mainly carried on by the Scientific Council for Economic Research at the GDR Academy of Sciences, are to be retained and further expanded. As we have seen, it is imperative to establish a creative and challenging atmosphere that fosters the best possible performances and leads to measurable and accountable results for theory and practice. Close cooperation with business practice is essential. The mere fact that some 30 percent of council members are directly engaged in practical affairs demonstrates the close links between science and day-to-day business operations. Scientific institutions also conduct research based on contracts with combines.

For objective reasons, economic research will in future tend to be of a more interdisciplinary nature and therefore need to be carried out in close cooperation with other social scientists and natural and engineering scientists. Intimate relations are already prevalent and represent a sound foundation.

It was noted at the Eleventh SED Party Congress that the economic strategy with a view to the year 2000 includes in a summarized form all the fundamental tasks to be accomplished in the unity of economic and social policy for our country to be able to achieve the objectives fixed for the period through 1990

and to be well equipped for the future up to the turn of the century. We have tackled these tasks in good time. We also in good time responded to changing internal and external conditions. The conception of the organization of the developed socialist society established in the party program is thus being resolutely realized. Economists have been able up to now to make a contribution to this process precisely because our party has always been committed to the development of the science of economics. This imposes on us the obligation with even greater intensity and resolution to accomplish the targets of the 1986-1990 plan of Marxist-Leninist social sciences.

FOOTNOTES

1. "Bericht des Zentralkomitees der Sozialistischen Einheitspartei Deutschlands an den XI. Parteitag der SED, Berichterstatter: Genosse Erich Honecker" [SED CC Report to the Eleventh SED Party Congress, Reporter: Comrade Erich Honecker], Dietsz Verlag, Berlin 1986, p 26.
2. "Bericht der Kommission zum Entwurf der Direktive des XI. Parteitages der SED zum Fuenfjahrplan fuer die Entwicklung der Volkswirtschaft der DDR in den Jahren 1986 bis 1990, Berichterstatter: Genosse Guenter Mittag" [Commission Report on the Eleventh SED Party Congress Draft Directive on the 5-Year Plan for the Development of the GDR National Economy in 1986-1990, Reporter: Comrade Guenter Mittag], Dietz Verlag, Berlin 1986, p 7.
3. "SED CC Report to the Eleventh SED Party Congress...," as before, p 58.

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ECONOMY

GERMAN DEMOCRATIC REPUBLIC

EFFECT OF SOFTWARE ON ECONOMIC DEVELOPMENT DISCUSSED

East Berlin EINHEIT in German Vol 41 No 8, Aug 86 (signed to press 14 Jul 86)
pp 747-754

[Article by Dr Joachim Funke, member of the SED Central Auditing Commission and general director of the State Combine for Data Processing: "Rational Production and Software Utilization"]

[Text] The SED's economic strategy with a view to the year 2000 is directed to the consistent further pursuit of the policy of the main task in its unity of economic and social policy for the benefit of the people. In the SED CC report to the Eleventh SED Party Congress, Comrade Erich Honecker noted: "Our main battlefield is the unity of economic and social policy. We advocate continuing on this course. Our greatest attention is devoted to those sectors of the economy, that determine the speed of advance. It is imperative even more than hitherto to link science with production and production with science. This applies in particular to the mastery of top level technologies."(1) Key technologies, such as microelectronics, modern computer equipment and the computer aided design, planning and control of production increasingly decide the capacity of our national economy. The principal issue with regard to their utilization therefore consists in achieving an overall increase in the rate of improvement of labor productivity. "This improvement in labor productivity, reflected in net production, means at the same time savings of embodied labor and represents the most important economic criterion for the use of the key technologies."(2)

To characterize the significant economic effects to be achieved by the resolute and speeded-up use of microelectronics, the computer equipment developing on its basis, the computer aided planning, design, production preparation and production control (CAD/CAM), let me point out that--according to Comrade Erich Honecker at the Eleventh SED Party Congress--the use of this new equipment enables us to obtain 5-fold or even 6-fold increases in productivity while substantially lowering costs, to cut development and transfer delays for new products--in general, therefore, carry out the reproduction process in combines and enterprises with far greater efficiency. This helps us even more consistently to use the law of the economy of time--a task that affects our entire socialist planned economy. In addition to the effects achieved by the use of this new equipment with regard to the preparation and control of the production process and also its management,

planning and supervision in combines and enterprises, the use of modern computer equipment also opens up new opportunities for the further organization of management, planning and supervision at all levels of the national economy. Quick access to data, the dimensions of the data stocks that can be rapidly processed, facilitate the necessary national decisions, formerly unmanageable optimization calculations, improve the quality of balancing, in many respects create better prerequisites for a high standard of central management, planning and supervision and thereby contribute to the even more effective use of this fundamental asset of socialist planning.

What Is Software?

Microelectronics and modern computer equipment as key technologies are inseparable from software, because data processing technology always consists of hardware (equipment) and software (programs and documentation).* Data processing technology needs this unity to be effective. However, hardware on the one hand and software on the other need to assume very different functions to enable data processing technology to accomplish its tasks related to the automation of processes and to achieve the greatest possible economic efficiency. The rational production and efficient use of software represent entirely new demands on the organization of production and labor, and it is imperative to quite consciously exploit the assets of socialism in this connection.

The experiences we have gained so far with regard to the use of data processing equipment permit us to assert that the efficiency of the use of the available hardware is primarily governed by the software. It is therefore all the more important to require the utmost effort respecting the production of efficient software and to purposefully make available the economic potential of software for the greater efficiency of labor and production, including their management, planning and accounting. "Great efforts are needed to organize software production, whether at the manufacturers of modern computers or their users,"(4) Comrade Erich Honecker noted at the Eleventh SED Party Congress.

As a new working tool, the integrated element of data processing equipment systems and microelectronic products, software has novel economic effects that result from its specific features by comparison with traditional working tools and products.

Software is primarily information, in fact processed information in the meaning of knowledge of processes. It is the programs and their documentations for the automation of processes with quite distinctive objectives. It is the result of scientific-technological work, and intellectual-creative elements are increasingly important to it. Software differs from all other known products of intellectual-creative work such as planning or research by being available in a material state allowing it to be directly production or labor effective. Software is available in the codified form of the program on data media (punched tape, magnetic tape, diskettes, microelectronic storage components), is reproducible and retrievable at will.(5) This is precisely one of the reasons for its efficiency raising effect. In connection with his description of software production, Comrade

Mittag noted that its generation "represents production in the economic meaning, because value is created, software has a price and, consonant with the specific features of this products, economic rules about purchase and sale exist."(6) Software allows the prompt use of the results of scientific work in production processes, in all phases of the social reproduction process and of nonproducing sectors and therefore a direct link between science and production, between science and all spheres of social labor. Software is easily exchangeable, easily updated, correctable and expandable and therefore a dynamic element in the material-technical base of the national economy. In this capacity it determines the flexibility of equipment. Software allows man in a completely novel way to affect the method of operation and thereby the efficiency of technical systems. The production effective transfer of the latest findings of research and development as well as the effective generalization and transfer of experiences increasingly proceed by means of software.

We distinguish essentially three kinds of software: Base software, user software and user oriented cross sectional program packages, sometimes called industry software. The most important elements of base software are the operating system required to operate electronic data processing facility, programming languages and compilers--serving to translate such a programming language into others--, basic mathematical programs, data bank software, data communication software, basic graphics software, information search systems.

Our Data Processing Combine has the assignment in the shortest delay to make available efficient cross section software (in particular for data banks) for modern CAD/CAM oriented computer equipment, develop language processors and get ready specific software development systems and integrated software packages. It meets these demands, relying on experienced cadres who have many years of experience in the field of data processing. The Data Processing Colmbine periodically and profitably handles on electronic data processing installations more than 2,700 EDP projects and programs for scientific-technical, technological, production preparatory and production controlling tasks, for optimization calculations, for planning, balancing and accounting.

Challenge to Training

Given the production and operation of the large number of electronic data processing installations, office and personal computers, it will be necessary by 1990 to train about 500,000 working people and enable them to efficiently operate this equipment. Suitable employees of combines making great efforts to build up and expand their own software capacities must be given specific further training. They will change their professional profile and, in many cases, their jobs and work places. Without adequate numbers of trained EDP planners and programmers, no combine or institution will be able to handle the tasks involved in the introduction of key technologies and in software production. Priority needs to be assigned a much quicker and more intensive adult education. The Data Processing Combine supplied advanced training to several thousand working people in the information field last year. In future it will even more comprehensively meet its national responsibility for the further education of working people in all spheres of the economy.

To meet the tremendous demand for trained personnel in the briefest possible delay, organized and intensive home study will be required in addition to the utilization of all available further education capacities, the organization of courses of instruction and other types of training. The Data Processing Combine is therefore working on a conception for all university and technical school cadres employed there to constantly add to their knowledge by purposeful, well organized and supervised home study in addition to attendance at courses of instruction. Making everybody aware of the obligation by increased home study to share in the latest knowledge and gain the practice oriented ability to cope with the CAD/CAM key technology and utilize computer equipment--that is a most urgent concern of political-ideological and educational work, a task to be shared also by the party organizations in the enterprises.

We in our combine have learned that high standard advanced training primarily requires substantive intensification by the use of computer equipment for training as well as for the simultaneous demonstration and teaching of concrete and efficient EDP solutions. The most useful knowledge and ability is acquired wherever further education builds upon tried and tested solutions, so that the exchange of experiences and the multiple utilization of the best solutions are assisted. The effect of such further education largely depends on the preparation and use of challenging technical books and training software. It is then possible to have the result of scientific-technological efforts promptly passed on in further education--a task that generally deserves a great deal of attention. For that reason it is also necessary to establish at the time of task assignment and the defense of the tasking workbooks in the plan science and technology the precise training documents to be submitted by the respective development collective for the purpose of continuing education. Many combines have long made it the custom for experienced managers and the best specialists to regularly act as lecturers. This ensures relevance to day-to-day operations, a high degree of novelty and efficiency in continuing education. The Data Processing Combine makes sure that selected and capable specialists act as lecturers in adult education courses for 4-6 weeks each year. At the present time, efforts are being made in all districts to organize data processing centers as even more efficient institutions for continuing education, where readily applicable information is made available about the development and use of CAD/CAM solutions, the work with data banks and remote data processing, the programming and use of office and personal computers as well as of the rationalization of software development.

Thorough Preparation

The comprehensive rationalization of large complexes of work--scientific-technical and technological work, product planning, the preparation and control of production, stockkeeping and also optimization, planning and management processes--begins with their thorough analysis. This is the basis for elaborating a complex CAD/CAM conception. From working with many combines, the Data Processing Combine has learned that efficient CAD/CAM solutions presume very careful process analyses, and their fairly high cost should therefore be taken into account. In view of the speed of introduction of such solutions, any skimping on quality adversely affects later work. If

new or amended solutions are required, not only does this often mean substantial costs to obtain better software but also the loss of valuable time.

The collectives working on the process analysis therefore need to be highly trained. They must have exact knowledge of the processes to be rationalized as well as of the possibilities and conditions of the use of computer equipment. Accordingly they should include planners, designers, technologists, production personnel and EDP specialists. The analysis of the technological preparation of production, for example, requires many standard criteria in order to trace weaknesses and thus exactly define the main starting points for concrete targets regarding greater efficiency and the production of the software. It is all the more urgent for the combines to closely cooperate with scientists to test in practice and make available mature methodologies for process analyses, that are suitable for use by others also. We need such manageable analysis methodologies primarily for product development, the technical preparation of production, production planning and production control.

Advantages of Subsequent Use

The accelerated production and rational use of software involve more resolute steps toward the wider subsequent use of existing material. This provides major opportunities for our socialist production conditions, but they are not yet exploited to anything like their full potential. Regardless of different production conditions in combines and enterprises, the adaptation of software or a CAD/CAM solution capable of being reused and already tried and tested in daily operation is almost always less expensive than a custom made new program. Unfortunately not all planners and EDP specialists have realized that, and as a result expensive new developments are often undertaken in cases when the exchange of experiences and the use of existing material would represent the far cheaper investment. Among the 2,700 EDP projects usually handled by the Data Processing Combine, 76 percent are projects suitable for subsequent use, and most of them are indeed reused several times over. The Data Processing Combine now accepts new project developments only if they are subsequent use projects and submits them to strict quality criteria.

Let me cite two examples of the benefits arising from the subsequent use of projects. WEMA VEB Saalfeld, an enterprise of the "Fritz Heckert" Machine Tool Combine Karl-Marx-Stadt, and the Saalfeld enterprise part of the Gera Data Processing Center VEB, itself an enterprise of the Data Processing Combine, jointly produced an effective CAD/CAM solution. This allows tens of thousands of daily operations to be reliably controlled in the WEMA VEB Saalfeld and, consequently, each part needed to arrive at its place on the line at the proper time. This program--an outstanding result of joint efforts--relies on minicomputer equipment, video terminals and miniprinters being directly used in the sphere of work of the VEB WEMA and linked for 8 hours daily with ESER [CEMA uniform electronic data processing system] computers at the Saalfeld Data Processing Center by means of remote data processing. Planning, supervision and the control of production are considerably improved thereby. The Data Processing and "Fritz Heckert" Combines have now agreed to adapt this program to other concrete conditions so

as to be able to reuse it several times.

Jointly with several other combines, the Data Processing Combine developed and introduced an important software program for the rationalization of the technical preparation of production (RTV). This project helped by CAD/CAM solutions to handle, for example, such important tasks as the transfer of the working plan master card and the piece list to a data bank of technical documentation, the build-up and use of this data bank, the production of technological documents such as the working plan master card, job instruction, prior time calculations, materials standards and NC punched control tapes. The program serves to save 50 percent of the working time needed to produce the technological engineering data, and the cost of changes in document handling is reduced by 90 percent. At the same time the quality of the technical documents improves considerably, thereby significantly facilitating decisionmaking. This basic program is currently used by 12 industry combines, in some cases jointly with data processing centers. Users include the "Klement-Gottwald Works VEB Schwerin, the combines Crude Oil/Natural Gas Gommern, "7 October" Berlin, Toys Sonneberg, the Magdeburg Machine Factory VEB, and others. Depending on requirements, four specialists need 6-18 months to develop an enterprise specific program based on this basic RTV program.

The wider subsequent use of software evidently presumes extensive knowledge of existing projects and programs. The Central Software Information Bank, currently being set up by the Dresden Data Processing Center VEB, will provide this information about software available in the GDR in the course of 1986. Information from this data bank will be made available upon request in the form of digests, but it will also be possible to get access by search. The data bank will supply addresses to the interested parties, enabling them to find solutions to his problem. They themselves will then have to examine these be able to use them. This central information bank will be useful for software developers in the combines, the personnel of software facilities, assignment managers of CAD/CAM operations at central organs and for special sphere oriented information and advisory facilities in all sectors. It will also be useful with regard to the process of the further deepening of economic integration.

Expanding the Prerequisites for Subsequent Use

We could also increase the subsequent use of software by systematizing the conditions and requirements for their use. The Data Processing Combine has for some time past endeavored to produce such a systematization of, for example, the use of CAD/CAM developments for the respective technological processes. In principle it is possible by the elaboration of fundamental technological requirements for specific operations (single, series and mass production) to develop a model and, consequently, feasible solutions for more efficient forms of subsequent use. Manufacturing processes in enterprises may generally be divided into basic types according to the kind and method of manufacture. Such a classification makes it possible already by the tasking workbook to arrive at a development assignment related to the reusable software components to be employed in the respective concrete program. Expansion of the theoretical bases represents an open field for the more effective cooperation between science and production. In principle such an

approach may also be transferred to CAD programs, that is the spheres of planning and design.

The development of so-called software modules (in other words integrated software complexes that may be combined in a type of building block system) has considerable importance for wider subsequent use and, therefore, the improvement of productivity in software development. These modules include software components that may be generalized for some part processes. The development of such software modules enable us to significantly lower the cost of specific CAD/CAM programs. In Schwerin enterprises it was possible, for example, to use up to 70 percent prefabricated software modules for some CAD/CAM developments, leaving only 30 percent of all components to be custom made. Some such software modules were subsequently used more than 20 times in Schwerin Bezirk alone. This was conducive to the continued application of a working method that is emphatically encouraged by the Key Center for Applied Research VEB with the aim of significant savings of development capacities and, above all, development time.

More Productive Software Development

To speed up the introduction of key technologies, greater efficiency, productivity and quality in the development and maintenance of software are just as important as the use of efficient computer equipment for software development. It is true to say that a modern computerized base in the respective combines and data processing enterprises must be guaranteed for the highly productive development of qualitatively impeccable software. Following the precepts of the Eleventh SED Party Congress, the Data Processing Combine adopted much more challenging economic targets for the production of software. It is intended, for instance, by improvements in productivity to cut by an average of 1-3 months the time needed for development and transfer per research and development topic. The scientific-technological standard of research and development results is to rise significantly, so that all state plan assignments may yield top level performances. All new software developments need to be quality projects, the cost of development must be substantially reduced and the economic productivity of all results significantly raised. At least 70 percent of the capacities for the development of software will be employed on novel solutions. Only 30 percent will be available for servicing, maintaining and rationalizing existing programs. The objective of further savings of materials and high-quality EDP paper will enjoy priority.

We of the Data Processing Combine will use interactive software development as one of the principal approaches to the improvement of productivity in software production. Interactive software represents the direct dialogue between the programmer and the computer and proceeds via the video terminal. In order to further improve the material-technical prerequisites for planners and programmers, we will need more software development places equipped with their own processing functions, storage capacities and graphic video terminal equipment, capable of being linked with ESER computers. The data processing centers must at all times make available considerable computer resources for recourse to the video terminal. Moreover, the use of so-called advanced

problem oriented programming languages is increasingly important in the process of software development.

Software developers in the GDR currently have available several modern methods and single tools enabling them to cut up to 30 percent of the development time for projects. In 1986 the Data Processing Combine will conclude the elaboration of an interactive software development system. This is a program package that facilitates more efficient software development by a dialogue with the computer via video terminals. It opens up new opportunities for raising productivity, and it will be imperative to comprehensively utilize them. The Data Processing VEB's are now engaged on the necessary preliminaries and will be able to pass on their experiences to other computer enterprises.

Developing All Opportunities for Regional Cooperation

Our socialist planned economy offers unique opportunities for the more rational use of software by the increased regional cooperation of combines and sectors also. Such cooperation is resolutely pursued in all regions of our republic. The methods used vary. They include regular CAD/CAM conferences in Gera, Leipzig, Suhl and Karl-Marx-Stadt districts as well as the planned efforts of working groups which--as in Schwerin Bezirk--are directed to specialized software development by several enterprises. The increased regional cooperation of various combines and enterprises in the development of software and the efficient and cooperative use of the computer equipment represent an important complement to the work within individual combines and industries.

The expansion of data processing centers to CAD/CAM centers, begun in Magdeburg and Cottbus, for instance, offers greater challenges to the efficient regional utilization of all the available potential. Modern computer capacities--in particular for data storage and data processing tasks--have been allocated to these centers. Their primary obligation is that of more quickly developing software, energetically transferring it to the production of the various enterprises in the district, ensuring the greatest possible multiple use, advising and training the users of EDP and CAD/CAM equipment and rationally preparing multivalent programs. The proposal for the creation of such a CAD/CAM center in Cottbus arose from the joint work of the Black Pump Gas Combine and the Cottbus Data Processing Center VEB. The aim is to efficiently use all the opportunities offered by computer equipment in both the gas combine and the Cottbus Data Processing Center VEB as well as to further improve remote data processing and data communication. The regional cooperation of several enterprises in the district with the Cottbus Data Processing Center VEB points in the same direction. First experiences reveal that software capacities and the computer equipment of combines is thereby used more efficiently. This fully responds to the national concept of so-called dispersed processing, and realization of this concept is being resolutely pursued.

Our guiding principle is the realization that flexible access to data stocks is possible only if data banks in fact exist; that information is available with the help of EDP in the briefest delay only if conversational systems are

used; that the job related availability of information is guaranteed only if data communication is expanded; that the results of data processing are better demonstrated if presented in the form of figures, text and graphics. In compliance with the resolutions adopted by the Eleventh SED Party Congress, extensive and highly productive software developments on the basis of the most rational organization of all processes in combines and enterprises as well as close cooperation between combines and enterprises are required for all these goals for the thoroughgoing utilization of modern computer equipment.

FOOTNOTES

* We define as software the entirety of programs and documentations available for the operation of hardware--that is electronic data processing installations (EDVA), process control computers, minicomputers and microcomputers as well as automatic controls, devices and sets of devices, machines, machine construction complexes and engineering centers.

1. "Bericht des Zentralkomitees der Sozialistischen Einheitspartei Deutschlands an den XI. Parteitag der SED, Berichterstatter: Genosse Erich Honecker" [SED CC Report to the Eleventh SED Party Congress, Reporter: Comrade Erich Honecker], Dietz Verlag, Berlin 1986, p 26.
2. Guenter Mittag, "Mit Qualitativ Neuen Schritten zu Hoechsten Leistungen" [With Qualitatively New Steps Toward the Best Performances], Dietz Verlag, Berlin 1986, p 42.
3. See "SED CC Report...", as above, p 28.
4. Ibid, p 30.
5. See Eberhard Prager/Evelyn Richter, "On Topical Theoretical and Practical Problems of Software Production," WIRTSCHAFTSWISSENSCHAFT, No 12/1985, pp 1773ff.
6. Guenter Mittag, as before, p 47.

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ECONOMY

GERMAN DEMOCRATIC REPUBLIC

TECHNOLOGICAL BENEFITS ASCRIBED TO INCREASED CENTRALIZATION

East Berlin WIRTSCHAFTSWISSENSCHAFT in German Vol 34 No 9, Sep 86 pp 1303-20

[Article by Prof Harry Nick, Dr of Economics, qualified lecturer, certified economist, born 1932, director of the research section, Institute for Political Economy of Socialism, Academy of Social Sciences, which is associated with the CC SED; recipient of the National Prize. Original title: "Scientific and Technological Revolution--Changes in the Types of Technology and in Social Organization of Production and Work"]

[English language summary] Against the background of the resolutions adopted by the 11th SED congress on the party's economic strategy to the year 2000, which fundamentally means to link the advantages of socialism with the achievements of the scientific and technological revolution, the author examines the economic peculiarities of key technologies which are characterized, above all, by a new combination of effects, both in scope and depth, of revolutionary technological innovations. Since these are the most important general features of the scientific and technological revolution they produce favorable conditions for the development of ever new key technologies in all spheres and in connection with all elements of the productive forces.

The author maintains that the man-machine transfer of intellectual work and the resultant multiplication of man's intellectual capacities constitutes the core of the scientific and technological revolution since it is the fundamental precondition for a new type of technology and for radical changes in the social organization of production. This process leads to (increasingly flexible and comprehensive) automation, the detechnicalization [as published] of large sections of social labor and, last but not least, to revolutionary changes in engineering sciences.

[Text] As Erich Honecker said at the 11th Congress of the Socialist Unity Party of Germany (SED), the economic strategy of the SED is directed toward "linking the advantages of socialism more effectively with the achievements of the scientific-technological revolution, which itself has entered into a new stage. Microelectronics, modern computer engineering, and computer-assisted designing, planning, and controlling of production are determining more and more the productivity of a national economy. In close interaction with this other key technologies are making headway, such as flexible

automatic manufacturing systems, new processing methods and materials, biotechnology, nuclear energy, and laser technology." (Footnote 1) ("Report of the Central Committee of the SED to the 11th Party Congress of the SED," report given by E. Honecker, Dietz Verlag, Berlin 1986, p 49) Associated with this are demanding tasks created by the scientific-technological revolution, particularly with regard to political-economy research on the developmental trends of modern productive forces, on the characteristics of the new potentials for efficiency, and on the means of their systematic development. For some time now, the political-economy analysis of the processes of the scientific-technological revolution has been going beyond just the characterization of separate trends of technological development and their possible economic effects, and thus it has made possible an ever deeper theoretical exploration of the economic nature and the economic and social potential of the development of modern productive forces. It has led to new insights into fundamental processes of the modern development of productive forces--insights that, for example, have revealed common causes and sources of a number of key technologies. One of the most important instances of this is the research on the changes in the type of technology that the scientific-technological revolution is causing. This research is so important above all because it makes clear the changes in the technological foundations of the mode of production and thus also in the system of the social organization of production and work.

This manner of approaching the theoretical analysis of the developmental trends of the productive forces and of the scientific-technological revolution is so fruitful because it directly concerns the economic and social aspects of modern technological developments; in such research, the political economists are moving in the field of activity allotted to them by the object of their science and are not merely interpreters and commentators on technological developments "from the viewpoint" of political economy. From this source, access to the fundamental connections between socialism and the scientific-technological revolution also opens up for the first time.

What emerges more clearly (even if only in broad outlines) at the beginning of this new stage of the scientific-technological revolution are its historical dimension, the overall panorama of the radical changes caused by it in the material-objective conditions of existence and development and the type of technology created by it, and the basic trends in the alteration of the technological mode of production and of the social organization of production and work. The theoretical analysis of these processes is of top-priority importance. It must furnish starting points for initial determinations in connection with the changes in the material-technological foundations and conditions of economic progress, of life, and of intellectual-cultural development.

It turns out that the most important general feature of the scientific-technological revolution is a new type of connection--hitherto unknown in its dimensions and in the intensity of its interactions--between the "effects in breadth" and the "effects in depth" of the scientific-technological upheavals. This is at the same time also the most important general feature of the key technologies. It is for just this reason that

the scientific-technological revolution is the fruitful soil for ever newer key technologies, without the hitherto familiar technologies losing any of their importance and effect.

The word "key technology" is the most fittingly graphic expression for designating the properties of revolutionary scientific-technical innovations, in the way that they are typical precisely of the scientific-technological revolution of the present and the future and in the way that they are visible surely most clearly in microelectronics and its applications: Doors are opened to new sources of efficiency, new in their dimensions and in all the directions of economic progress--this means that they are simultaneously labor-saving, sparing of energy and material, and capital-saving; due to their necessary conditions and effects, they are connected with other revolutionary technological upheavals, and also with a whole host of qualitative improvements of familiar products and methods. And finally, the fields of application of these technologies are bound to be "unlocked," their technical and technological surroundings are obliged to be changed, with this process extending from demanding research tasks to the modernization of existing technology and to the streamlining of major production steps. In fact these key technologies have a sort of "yeast effect," which causes the entire material-technical potential to undergo fermentation and aids in the more rapid development of the potentials for efficiency of existing technology. In this way there arise also greater possibilities for connecting the latest technical developments with the modernization of existing technology, and new dimensions of comprehensive socialist rationalization are generated.

The historically new quality of the "effects in breadth" of the scientific-technological revolution manifests itself in its universality, in that within their compass are included generally all possible areas of the real world in connection with the process of man's coming to terms with nature--many of these areas for the first time--in that all objective elements of the productive forces are revolutionized, and in that with the incipient massive technicalization of intellectual activities, elements of both basic functions of human work, physical as well as mental, can be transferred to technological tools.

The new quality of the "effects in depth" of radical technological changes from this scientific-technological revolution expresses itself as a whole in the fact that fundamental material-objective conditions of existence and development of the society are put increasingly into human hands, and that they have become moldable and alterable by man in a new way and on a new scale. This opens up completely new possibilities and dimensions for the enrichment of human life, as well as dangers for him:

- The scientific-technological revolution brings about "a gigantic increase in human material and intellectual possibilities." At the same time, however, "for the first time in history" it has "'bestowed' upon man the material means...to destroy all life on earth." (Footnote 2) ("Political Report of the Central Committee of the CPSU to the 27th Party Congress of the CPSU," report given by M. S. Gorbachev, Dietz Verlag, Berlin 1986, p 12f)

- In recent years and decades, certain balances of nature which had developed over millions of years have measurably changed. In extensive areas nature is losing its ability to restore these balances and cycles on its own power. Natural cycles and economic cycles become entangled with one another. The transition from formerly a mainly extensive relationship between production and natural material--here, to produce more means to take more material from nature, to utilize only a small fraction of this in the final product, and to use these final products themselves only for a short time--into an intensive relationship, characterized by technologies low in waste products, the tendency toward the transformation of waste products into raw material, and "closed material cycles," is becoming an objective economic and ecological necessity. The scientific-technological revolution is creating ever newer and more effective possibilities for an economic growth that to some extent saves on natural resources and is sparing of the environment; biotechnological processes will play an important and growing role precisely in this area.

- With the decipherment of the code of genetic information, for the first time man has become the creator of nature. He is now able to alter living beings in a "directly designing manner"--no longer only by way of breeding and selection--and in fact to create new species. This is a completely new dimension of man's dealing with nature, and our imagination is inadequate to picture its possibilities.

- With the increasing technicalization of intellectual activities, of the "intellectualization" of technology, the person is expanding, as it were, his mental productivity many times over and at a great tempo. This multiplication and steady expansion of the intellectual productivity of the person through scientific-technological progress is in my opinion the most significant phenomenon in the extension of man's control over nature, the dominating source of the increase in the productive power of human work within the process of the present scientific-technological revolution.

Within the process of the scientific-technological revolution, one kind of material-technical basis and of productive forces is springing up that objectively wishes to see social relationships under which the human is the highest measure of all things. If the greatest dangers to the existence and the development of the human race are to be avoided, none of these developments should be subject to the unrestricted influence of the profit principle. This is true quite categorically of the prevention of the misuse of the scientific-technological revolution on behalf of an aggressive policy directed toward striving for military superiority and political dictatorship. But it is true also of the other fundamental revolutionary changes, for example the dangers associated with the possible misuse of the genetic-engineering manipulation of persons. The most acute and for the near future certainly the greatest dangers undoubtedly arise from the misuse of modern information and communication technology for manipulating the minds and for increasing control over people in the interests of imperialist policy and the consolidation of the imperialist power structures.

In view of this universality of the scientific-technological revolution and its effects in depth, an especially important question, but one which is particularly difficult to answer, is whether there are processes and developments that have an especially great repercussion on the overall course of the scientific-technological revolution, to which a certain predominance can be ascribed, and which more than all others influence the other trends of the scientific-technological revolution.

The most recent example of the discussion of this question are the arguments that are made for biotechnology as the supposedly leading direction of scientific-technological progress. Undoubtedly biotechnology is assuming a rapidly growing importance: Aside from microelectronics, it is very probably that key technology which in the near future will open up the most fertile sources of efficiency. In explanation of the growing role of biotechnological processes, not only are individual examples and approaches to solutions given, but also very generalizing speculations, which in part move on the philosophical level. Not only is biologicalization as a component of scientific-technological progress placed on a par with mechanization, automation, chemicalization, and the like, but not seldom it is even maintained that biotechnology is in fact the most progressive trend of scientific-technological progress.

The starting point and essential basis of these speculations is often the statements of Friedrich Engels, in his work "Dialectics of Nature," concerning the system of natural sciences, above all concerning the comparisons between physics, chemistry, and biology. "The mechanical, physical...(reaction) exhausts itself with every act of reaction. The chemical reaction changes the composition of the reacting substance and recurs only if a new quantity of the same thing is added. Only the organic body itself reacts independently--of course, within its sphere of powers...and on condition of the addition of nourishment." (Footnote 3) (K. Marx/F. Engels, "Werke," Dietz Verlag, Berlin 1956ff, Vol 20, p 554)

Linked to this is the thought that scientific-technological progress follows an objective inner logic of development, and in fact in such a way that science and technology devote themselves, as it were, to more and more complicated forms of the motion of matter. According to this notion, the 18th and 19th centuries had been marked above all by physics at first, the 19th and 20th centuries increasingly by physics and chemistry, and the 21st century will be marked above all by biology and biotechnology, with biotechnology processes naturally using to a high degree not only the results of the biological sciences but above all those of chemistry also. Many authors go so far as to speak about a replacing of the scientific-technological by a scientific-biological revolution in the coming century. With this increasing significance of biology and biotechnology, science and technology are now devoting themselves to the highest form of motion of matter, which can only mean that one "ought to place biologicalization at the head of scientific-technical progress and to view it as the most progressive trend in this progress." (Footnote 4) (L. Petruzelka/I. Rubik, "Nutrition From the Perspective of the Biological Revolution," POLITICKA EKONOMIE, No 7/1983, Czechoslovakia) In such a manner of approach, naturally it conclusively follows that biology and biotechnology will no

longer depart from its leading position in the system of the sciences and in the progress of technology.

Undoubtedly, important aspects of the development of the productive forces and of the significance of biotechnology in particular are addressed here; however, such views do not go unchallenged.

Not less noteworthy are views according to which in the question about the dominating processes one should take as a basis more the functioning of the various objective elements of the productive forces within the process of man's interaction with nature. The most obvious thing here is, of course, to take as a basis the means with which the person purposively alters the more or less already machined and processed natural materials--the working tools. And the basic process in this sector is, of course, the transition to self-controlling and self-regulating systems, automation. Most economists are justifiably of the opinion that automation represents the core process of the present scientific-technological revolution because it concerns the basic relationship in the development of the productive forces--the relationship between the person as the main productive force and the working tools, the instruments of production.

In no other trend of the scientific-technological revolution are the changes that have occurred in recent decades, at a fast pace and with great constancy, so clear and so weighty as in the area of automation. For example, while the degree of automation of equipment (share held by automated equipment in the value of classifiable equipment) was 32 percent in the GDR in 1970 still, by now this extent is 53 percent. This means that automation has become the dominant stage of technicalization in our industry. But even more significant is the qualitative advances in automation; automation has become flexible, and it is above all because of this that the solutions involving automation are becoming increasingly more complex. Automation is thus losing the "insular character" that it necessarily had to have as long as it was a "single-purpose automation" and was possible only under conditions of mass production.

But this thesis also, according to which automation is the dominating process of the scientific-technological revolution, has not gone unchallenged. The function of the working tool is said to realize itself above all in the action of the working means--more precisely, of the tool--on the object of the work. But this "how?" of the action of the tool on the material, on the workpiece, is above all the question about the technological method used and not first and foremost the question about the manner of the regulation and control of the technological process. The Soviet economist G. Danilin at this point points out emphatically that although the transition from mechanized to automated production causes far-reaching changes in the control and regulation of the technological process--the working tool is no longer controlled by the person, but by the machine itself--nevertheless it is not necessarily connected with a change in the technological process involved. He says that since the transition to automation does not at all alter this decisive point of the interaction of working tools and objects of the work, it also does not signify the evolution of a new type of technology.

Automation, electronic data processing, nuclear energy, or new types of materials cannot "initiate in themselves a revolutionary change in the productive forces. They cannot be the starting point and material basis for the revolution in the productive forces, although they play an important role in its progress. Therefore they are also not an expression of the essence of the scientific-technological revolution." (Footnote 5) (G. Danilin, "On the Essence of the Scientific-technological Revolution," SOWJETWISSENSCHAFT. GESELLSCHAFTSWISSENSCHAFTLICHE BEITRAEGE," No 6/1977, p 613) Danilin is of the opinion: "The revolution in the productive forces must manifest itself as a technological revolution. The change in the technology constitutes the scientific purport of the radical change in the productive forces." (Footnote 6) (Ibid., p 614)

Technological processes have been the most conservative element in the previous history of the productive forces of technology. As improbable as it may sound, it is nevertheless a fact that the technological methods still most widespread today are not decades and not even hundreds of years old, but many thousands of years old. They arose at the beginnings of primitive society. Of course, a modern automatic weaving machine is many times more productive than a handloom. But this difference in productivity is based not so much on a technological advance, but rather on an alteration of the working tools. The technology of weaving is many thousands of years old. The same thing is true of spinning, knitting, forging, sawing, drilling, bending, squaring, scraping, and grinding.

It is pointed out above all that the economic potential of many customary processes is visibly on the decline. It is certain that an increase in working speed in turning, milling, and grinding by the same amount as was achieved in the past three decades will simply not be possible. To an increasing degree and more and more clearly, such an increase is bumping up against certain physical limits, which can certainly be pushed back still by changes made both in the tools and also in the workpieces, and by design changes in the machines, but this will tend to be to a decreasing extent. (Footnote 7) (Precisely in recent years there have been striking examples to show that the possibilities of further perfecting the classical methods of shaping by cutting should not be underestimated. In some cases there have been precipitous increases in machine rotational speeds, in positioning accuracies, and the like. Above all, microelectronic control systems are opening up new efficiency capabilities even of the classical processes; thus, for example, grinding machines having a twofold or threefold output have become possible through a simultaneous multiple machining of the workpiece, without the grinding speed having been raised substantially. In any case, the assertion that the customary technological processes date back to the primitive society is valid only as to its basic principle. The modern cutting processes differ substantially, of course, from scraping with the hand-axe, although in both cases what is involved is the mechanical removal of shavings by the mere application of force) In such cases sound barriers, so to speak, to scientific-technological progress can be perceived, the overcoming of which will be possible only through the trend toward a replacement of mechanical processes--this is the general common feature of all the processes mentioned just now--by

nonmechanical processes. The essence of the scientific-technological revolution is said to consist in the fact that "objectively an orderly process of the replacement of technologies (is occurring): A transition to the use of various types of nonmechanical technologies directly in the machining processes is taking place. Since the nonmechanical forms of material motion (at the molecular, atomic, and subatomic levels) cannot be monitored directly by the human sense organs, their technological utilization is possible only under the condition that the control functions earlier exercised by the workers are transferred to technical equipment." (Footnote 8) (G. Danilin, loc. cit.)

Quite clearly here also very important processes of the scientific-technological revolution are characterized. The increasing development and application of nonmechanical methods is undoubtedly becoming an ever more fertile source of many highly efficient key technologies, such as laser engineering and the like; biotechnological processes also are a part of this.

But in such a characterization of nonmechanical methods as the fundamental process of the scientific-technological revolution a certain undervaluation of automation should not be overlooked. The transition to self-regulating and self-controlling systems is of extraordinary importance both with respect to progress in efficiency and regarding the changes in the status of the person in the immediate production process. In the process of the industrial revolution, in the transition from manual to mechanized work, substantial changes in the technological methods did not arise either. But it can hardly be disputed that this industrial revolution created a new type of technology. Meanwhile, the radical technological changes caused by automation are quite undoubtedly of no less weight than those of the industrial revolution.

Finally, it also must be noted that "technology" includes not only the technological processes--that is, the interaction of tool and object of the work--but also the interaction of the person, working tool, and object of work. To that extent the transition to self-controlling and self-regulating systems also signifies fundamental changes in the technology, although not necessarily in the technological processes.

Other authors are of the opinion that the energy revolution to be expected with great certainty in the initial decades of the coming century will cause the possibly greatest technological upheaval, which in fact is taking place in the course of the present scientific-technological revolution. This energy revolution will lead to a solving of the energy problem on the whole--that is, to a kind of energy generation that: 1. Is based on non-exhaustible resources, and 2. will provide very cheap energy, so that the available amounts of energy as a limiting condition in economic decisions will become a practically negligible factor. Most of the hopes in this connection are associated with nuclear fusion and with the utilization of solar energy for the operation of outer-space electricity plants.

Very significant developments that in their effect compare with the key technologies are taking place in the area of industrial materials.

On the whole, one can see in its rough contours the overall panorama of the revolutionary technological changes which will occur in the course of the present scientific-technological revolution, but of course only in their basic points of departure; at present it cannot be estimated what kind of economic potential there is in biotechnology and how this potential will be developed.

In connection with all this, two things must be considered: First, that here we have singled-out processes that are taking place in very close interrelationships with more evolutionary processes. For example, it is certain that the overcoming of the energy problem, above all in the decades lying immediately before us, will be realized by perfecting the processes based on nuclear fission as well as by a relatively large diversity in the use of so-called alternative energy sources (wind energy, biogas, heat pumps, and the like) and that above all the reducing of losses in energy conversion and transfer is assuming an increasing importance. Second, it is important to become clear about the temporal dimensions of these processes. Of course, at present the replacement of mechanical by nonmechanical methods and the substituting of man-made materials for conventional materials are already playing a great role and show important trends of scientific-technological progress. Nevertheless it must be assumed that even around the turn of the century steel will be the most important material in machine building, and that the conventional technological methods, including the metal-removing processes, will predominate.

As far as the question about the dominating process of the scientific-technological revolution is concerned, probably this much is indisputable: If we seek to answer this along the lines of what radical technological changes will have the most significant economic effects, persuasive answers can scarcely be expected. The question cannot be answered as to whether or not greater economic effects will ultimately stem from biotechnology than from microelectronics, whether or not the solving of the energy problems in the above-described sense will possibly have even greater economic effects. And finally we must generally keep in mind that certain radical technological changes are also possible in a non-too-distant future--changes which at present are scarcely discerned in their rudiments, but which will definitely have very significant economic consequences.

Does all this mean that those are right who say that the question about the core process of the scientific-technological revolution is not answerable at all and consequently also not meaningful in view of the complexity and great dynamism of these processes?

In my opinion, the question is meaningful, very important, and also unequivocally answerable.

An explanation of the core process of the scientific-technological revolution and of the new type of technology created by it is so important above all because it makes possible a deeper understanding of the alteration of the technological bases of the mode of production as a

whole--an alteration that is caused by the scientific-technological revolution and that is the immediate material basis for new trends in the collectivization of production and work. Precisely such processes are the ones that are gaining rapidly in importance with the new stage of the scientific-technological revolution, and that are extraordinarily important to the successful realization of the economic strategy resolved on by the 11th Party Congress of the SED.

Naturally, definitions of the core process of the scientific-technological revolution and of the type of technology are unsuitable for this purpose if they more or less emphasize only one of the main trends of the scientific-technological revolution (automation or the introduction of nonmechanical technological processes, or the solving of the energy problem, and the like) and thus can lead only to the underestimation of other main trends. Equally unhelpful are attempts to admit all important directions and trends of the scientific-technological revolution into the concept of type of technology--something which then makes this concept essentially superfluous.

A New Type of Technology

The answers to the question about the core process of the scientific-technological revolution are naturally dependent above all on what theoretical starting points we choose, what the premises of this posing of the question are. If the initial thesis consists in saying that the development of the productive forces follows an inner objective logic which is defined by the search for and technological utilization of more and more complicated forms of material motion, one necessarily reaches the result that biotechnology represents the core process of the scientific-technological revolution. If one assumes that the qualitative alteration of the working tools is the determining factor of the progress of technology, automation will simply have to be defined as the dominant process in the scientific-technological revolution. If one subscribes to the opinion that the changes in the action of the means of labor (the tool) on the worked-on object is the main axis of technological progress, one would have to agree with the opinion of Danilin, according to which the replacement of mechanical by nonmechanical methods represents the core process of the scientific-technological revolution.

Of course, it must be the case that the starting point for considerations about the core process of the scientific-technological revolution are such theses as are unconditionally correct--axioms whose correctness is not disputed. These starting points must at the same time concern quite generally the meaning, the purpose, and the function of technology and of technological progress as a whole--that is, include the answer as to what technology is above all, why it exists, and what its purpose is.

In my opinion, the Marxist-Leninist theory permits only one mode of approach here--namely, to define the content and function of technology, and thus of technological progress, from the viewpoint of the labor process, from the viewpoint of human labor. From this it follows necessarily that progress in technology above all represents the

unceasingly advancing process of the transfer of functions of human labor to external means, no less than to technology, whereby not merely is the person relieved of certain functions of labor, but above all the productive power of human labor increases. (Footnote 9) (The progress of technology has a quite variable form, and its relation to the transfer of functions of human labor to technology is often very mediated--for example, in the upgrading of the worked-on objects and in the use of natural processes (microorganisms, for example) in production, among other things. But if one assumes that technology in the comprehensive sense--that is, in whatever form--is a tool for man in his dealings with nature, this relation is ultimately always present)

With that we also are given a persuasive answer to the question of what technological revolutions are when they occur: Always whenever large and important groups of functions of human labor become massively technicalizable for the first time, and thus the physical limitations to the capacity for work placed on human beings are overcome precisely by technology. Such an approach gives rise just as inevitably to the answer to the question of how many scientific-technological revolutions there are in the development of the productive forces that, considered from their historical dimension, are comparable to one another (it is undisputed that in the history of the productive forces there have been many very far-reaching revolutionizing upheavals--for example, the commercial utilization of electricity, and the invention of the combustion engine and the growing use of automobiles associated with this). If one assumes that human labor is the inseparable unity of two basic functions--physical and intellectual activity--it follows that in the history of the productive forces there must be only two eminent technological revolutions.

In fact, the essential tenor of the industrial revolution was the dissociation of the processes of production and labor from the limitations on the physical capability of humans. Analogous to this, the present scientific-technological revolution signifies the overcoming of certain limitations on the human capacity for intellectual work--a multiplication of man's mental powers. Necessarily following from this is also the definition of the type of technology. The technology created by the industrial revolution realized above all the function of the transformation of that energy that acts on the worked-on object and brings about its alteration for specific purposes. This technology was an energy-converting and material-converting machinery. Wherever this type of technology could and can be used, the available amounts of energy have nothing more to do with human physical capabilities. Now, the scientific-technological revolution is making possible the massive technicalization of intellectual activities, the practical overcoming of certain biological limitations on the human capacity for mental work. Above all this technology makes possible higher and increasing speeds in the performance of logical operations, a much greater precision in the performance of information-processing operations, and "monitoring"--the controlling and regulating of a large and growing number of parameters. The technology of information processing based above all on microelectronics is the starting point for the formation of the new type of technology, which in terms of automation

and the technicalization of information-processing operations is effective in all sectors of social labor.

The type of technology created by the scientific-technological revolution thus exists in two forms: In connection with process engineering, and as a special technology of information processing. In the first case it is a question of the automation of production, of the linking of energy-converting and material-converting techniques with mechanical information processing for the purpose of controlling and regulating technological processes--that is, a matter of self-controlling and self-regulating technological systems. In the second case it is a question of the technicalization of those working processes whose object and product are again information. Here what is involved is the use of information technology in preparatory work for production (computer-assisted display-screen workstations for designers, technologists, and project planners--CAD--in the sectors of management for purposes of the systematization and representation of knowledge (scientific-technological information and documentation), and the like).

The immediate basic effects of the new type of technology consist in the following:

1. It creates a new kind of energy-converting and material-converting technology, and makes possible and requires access to whole hosts of new technologies and new materials, which consequently acquire on their part a much more active role in the overall progress of technology.
2. Information technology as a special technology permits at the same time the dissociation of technological progress from the processes of material machining and working, to which it was very strongly bound hitherto--that is, the massive technicalization for the first time of large sectors of social labor which previously were largely closed to technology.
3. Among the fundamental effects of this technology type is the increasing integration of the processes of technicalization of production-preparation activities, the main and auxiliary production processes, the processes of management, planning, and accounting, as well as of information and communication processes outside direct material production.

The rapidly advancing technicalization of functions of intellectual work--that is, information technology based on microelectronics--is the decisive starting point for the emergence, further development, and diffusion of the new type of technology. Above all the following developments are significant here:

- All elementary functions that belong to the complex of intellectual activity (perception, thought-work, memory, communication) can be technicalized to an increasing extent and with increasing effects. The development of information technology is no longer as much bound to electronic data processing equipment as it was formerly; today, powerful stimuli proceed from all functions of information processing--from the obtaining of the information (sensor technology in connection with

mensuration), its transmission (light guides, communications satellites, digitalization of signals, new communication techniques), and its storage and processing (new generations of electronic data and knowledge processing).

- With software, human mental work is given a completely new field of activity in terms of the manner of functioning of technological systems, which creates a new potential for efficiency that is unrestricted in its development. In the first place, the control and regulation operations can be predetermined, and in fact not only in the form of preassigned individual sequences of steps, but also in the form of the overall "manner of behavior" of the technical system (including feedback, "self-monitoring" and correction, and goal-seeking programs) when directed at a predetermined goal. For another thing, through the separation of the control and regulation functions from the immediate activity of work, through their objectification in programs, the person can multiply his mental powers (multiple use of software).

- The field of effects of mental activity, and consequently also of the technicalization of information-processing operations, is universal and extends to each and every sector of human activity, whereas the energy-converting and material-converting processes are limited to the sector of direct material production--more precisely, to a subsector of material production, to the main production processes. Only with the scientific-technological revolution, with the massive technicalization of even intellectual activities, does there arise the possibility of an increasingly "universal" technicalization of processes of production and labor. This universality develops in the horizontal direction (general, comprehensive technicalization of processes of preparation for production, production control, and so forth) and also in the vertical direction, but here in two directions that are contrary and at the same time inseparably connected: For one thing, a progressive centralization of information processing takes place (data banks), and for another thing a progressive decentralization, as a result of which information technology comes to the separate workstations. Naturally the "organization and computing centers" in which electronic data processing is combined and administrative institutions is concentrated and where efficient computing equipment and highly qualified staffs are located do retain their importance, and in fact their tasks and the demands on their efficiency are increasing. Nevertheless it is less and less possible to equate information technology, inclusive of the relevant software, with this concentrated electronic data processing.

The dialectics of the progressive centralization and simultaneously progressive decentralization of information processing thus consists in the fact that it is increasingly true that from separate workstations ever more high-powered and also progressively centralized data banks can be reached.

Naturally, the development of more and more comprehensive and universal technical solutions takes place in connection with processes. It can be observed clearly how microelectronics was linked at first with individual

devices, working tools, and mechanical consumer goods and how it subsequently led to the formation of complex information-technology systems, for example to computer-assisted production preparation activities, flexible machine-control and robot-control systems, scientific information and documentation, and office streamlining. This development is extending itself to the interlinking of such information systems by transmission networks and data banks, in connection with which the informational infrastructure is acquiring a growing importance.

Alteration of the Technological Foundations of the Mode of Production and the Processes of the Collectivization of Production and Work

All this makes it clear that the scientific-technological revolution signifies not only a totality of revolutionary technological changes, but also the gradual formation of a new kind of material-technological foundation, on the basis of which qualitatively new processes and trends of the collectivization of production and work are beginning to be operative. Above all by way of an understanding of the alteration of the technological mode of production and of the changes based on this in the social organization of production and work, there develops an understanding of the economic and social potential of the scientific-technological revolution and its true historical dimensions.

Here it must be noted first of all: In general the scientific-technological revolution is talked about in a different manner, and different aspects are emphasized, than when referring in an analogical way to the industrial revolution. This can be seen already in the relevant linguistic expression: With regard to the industrial revolution, from the word itself the transition from manual and small-scale handicrafts production or from workshop production to mechanized large-scale production, to industrial production, and to the factory system is emphasized--that is, the changes in the technological foundations of the mode of production as a whole and the associated alteration of the social organization of production. (Footnote 10) (In Marxist literature, these changes are sometimes designated as the formation of a new "technological mode of production." See W. Marachow, "Structure and Development of the Productive Forces in the Socialist Society," Dietz Verlag, Berlin 1972, p 152f.) Naturally, the industrial revolution is also based on a technological revolution, which created a new type of technology: Steam engines, mechanical weaving looms, and spinning machines brought it about that the tool was taken from the person's hand and was transferred to a mechanism, and there arose the classical machinery, the energy-converting and material-converting technology.

In general we speak about the scientific-technological revolution simply as being a technological revolution, and less or scarcely at all as an alteration of the "technological mode of production" and of the social organization of production. But precisely this is what is absolutely necessary, in view of the new stage of the scientific-technological revolution that we are starting on with the resolutions of the 11th Party Congress and which represents the most important element in the new stage of our economic strategy.

The fact that in connection with the industrial revolution quite naturally the alteration of the technological foundations of the mode of production and of the social system of the organization of production and work are emphasized above all is due primarily to the fact that the theoretical analysis of this radical change, which was done above all by Marx, took place decades after its consummation (the period of the industrial revolution in England is largely given as the time from 1760 to 1830), when just these changes were recognizable as the most substantive ones. The theoretical analysis of the present scientific-technological revolution has been pursued very intensively since its beginning, and at first the technical and technological upheavals and their main trends quite naturally were in the foreground. Today we have arrived at a point where the changing of the technological foundations of the mode of production and of the social organization of production must increasingly come to the fore. Today, it can be clearly seen that the upheaval in the material-technical foundation and in the social organization of production caused by the scientific-technological revolution will be much more far-reaching than that caused by the industrial revolution of the 18th and 19th centuries. The "factory of the future" will differ much more from the "classical factory" than the latter differs from workshop production or even from small-scale handicrafts production. Naturally it is not a question of abstract images of the "factory of the future" (the word "factory" is not very adequate to the forms and dimensions of the collectivization of production as this is brought about by the scientific-technological revolution), but of the objective trends of qualitative changes in the technological mode of production and of the social organization of production. The following certainly are some of these trends:

First: The linking of science and production is being given powerful stimuli through the increasing collectivization of knowledge. Two processes are of particular importance here:

- On the basis of new systems of the centralization, systematization, and representation of knowledge (interlinked systems of data banks, expert systems, remote data transmission, putting terminals at workstations), qualitatively new conditions are generated for the collectivization of knowledge, the generalization of findings and experiences. The basic trend consists in the fact that access by the individual workstation to world knowledge that is truly accessible under the given political conditions is becoming quicker, easier, and cheaper. The relationship between scientific work and world knowledge is becoming more compelling. This is true of both the starting points of this work and the worthiness of its results.
- Above all by way of software, individual know-how and experiences are objectified, are made accessible to others. This signifies new possibilities for collectivization, for the rapid dissemination of the most effective solution, including the best production experiences. Therefore all problems connected with this--the efficient production of software coordinated on a division-of-labor basis, making it available to all users in question, the marked interest of the producer and user of software

in its diffusion--deserve the greatest attention, not least on the part of economic research.

The purposeful utilization of the new possibilities and dimensions of the collectivization of knowledge are an important aspect of the organic combining of socialism with the achievements of the scientific-technological revolution. The inner essential relatedness between socialism and the scientific-technological revolution has one of its most important foundations in the reciprocal correspondence between the character of scientific work as "public work"--which is based on the work of earlier people and whose result should belong to all--and social property. Conversely, the monopolizing of knowledge, today the main form of the competition among capitalistic corporations, is directly antithetical to the character of modern productive forces.

The purposeful utilization of the special effects of scientific work, the circumstance that its products do not wear out through use and that the effort spent in acquiring ideas is always of a one-time nature, regardless of how often they are used in practice, turns out to be an inexhaustible source of progress in efficiency, whose usefulness rapidly increases and which quickly enlarges the potencies of the superiority of socialism. The development of this source is an important aspect of the growing "learning ability" of the socialist order, the further unfolding of socialist democracy and way of living, of socialist competition, of comparative output analysis, and other forms of a broad exchange of experience.

Second: Very important and powerful processes of collectivization are taking place in the more intensive reciprocal interpenetration of science and production. On the one hand, above all the relationship between the results of basic research and technical-economic peak achievements of production becomes closer, more direct. "In the approaching period, from basic research we can expect stimuli that will lead to peak achievements in science and technology, will take into account our real conditions and possibilities, and will concentrate on the focal points of economic strategy and social progress." (Footnote 11) (See "Report of the Central Committee of the Socialist Unity Party of Germany to the 11th Party Congress of the SED," loc. cit., p 55)

On the other hand, the effect in breadth of fundamental discoveries and inventions is increasing, above all in connection with the key technologies, which opens up new possibilities and tasks for applied research, innovator activity, and comprehensive rationalization, especially in the combines of the user sectors.

The more effective shaping of the collectivization processes must be directed essentially at raising the speed of diffusion. "It is the speed of dissemination of an innovation that determines the tempo of economic growth." (Footnote 12) (H. Koziolek, "Science, Technology, and Reproduction," Verlag Die Wirtschaft, Berlin 1981, p 69)

Third: With the progressive technicalization of intellectual activities also through modern information and communication technology, as well as of

flexible automation, increasingly comprehensive technological and organizational solutions at an increasingly equitable technical-economic level are generated. The technicalization of the production and work processes is becoming "all-encompassing"--the period when automation necessarily took effect in terms of "insular solutions" is coming to an end. The great differences in the level of technicalization of the various sectors caused earlier by the type of technology involved--mechanization and automation above all of the direct manufacturing processes, with a considerably lower level of technicalization of the production-preparation processes, the auxiliary processes (transport, handling, and storage processes above all), the assembly processes, the processes of direction and management--are being gradually overcome. The information technologies have powerful integrated effects. The comprehensiveness of technological and organizational solutions, their realization in the form of optimal, flexible systems, becomes a powerful accelerator of scientific-technological progress, of its economic and social effectiveness.

Fourth: The increasingly comprehensive technical solutions are characterized to a growing degree by interaction, the combination of an increasing variety of materials, procedures, and working tools that are optimal--that is, geared to the intended purpose and the most efficient fabrication possible. This tendency of a growing variety and differentiation is accompanied by a tendency toward an increasing conformation, which is the most pronounced in the development of the working tools (in their basic components; in their concrete design they are more and more adapted to the respective conditions of application), and here again which is the most pronounced in information technology, for which computer-assisted video display workstations are the fitting example. This conformation is an important objective component of collectivization. It makes it increasingly important to have similar educational and qualification standards in the various sectors that, from the viewpoint of the product, are sometimes far removed from one another, and it multiplies the potencies of socialist cooperation.

Fifth: Above all, information technology makes the increasingly complicated and complex technological processes and organizational structures more easily and better comprehensible, selective, and directly controllable. This is connected with qualitatively new possibilities for a forward-looking and strategic management of technical and scientific sequences of production. For socialist administrative activity the result at all levels here is new possibilities for the systematic and efficient consummation of the collectivization processes.

Sixth: Increasingly more favorable conditions are arising for the more effective shaping of the reproduction process of the combines and enterprises and also for the utilization of the effects of collectivization within the framework of the entire socialist economy. Comprehensive systems of interlinked data banks of various sorts and new possibilities for inter-enterprise communication are leading to more intensive and more efficient cooperation among the economic units, are opening up new possibilities for developing the effects of integrated-plant organization, concentration, specialization, cooperation, and combined operations. In

the system of the social organization of production, on the one hand the importance of concentrated and comprehensive potentials for research, commercial introduction, and production is growing; on the other hand there is an expansion of the possibilities open to smaller and intermediate-sized enterprises to apply the most modern technologies, to be pacesetters in certain sectors of scientific-technological progress.

Seventh: The relations between man and working tools are becoming more elastic, and the concrete course of the work--that is, the type and sequence of working operations--is becoming less controlled by technical and organizational conditions. The importance of the inner motivation of the work grows. At the same time the possibilities are growing, above all through a corresponding organization of the work, for shaping this motivation in a way that is richer in content and more diversified, for enriching it with intellectual-creative elements, and for reducing physical as well as mental-nervous overstrain.

With the growing role and responsibility of the combines for the efficient consummation of their reproduction process, with their transformation into the "basic units of the state-owned economic sector," the fundamental prerequisites for the systematic shaping of these new collectivization processes are created--in dialectical interaction with central direction and planning. The effectiveness of our overall system of management, planning, and economic stimulation will be found to lie above all in how it develops the new potentials for efficiency, which powerfully promote the intensification of the reproduction process in its totality. Among the general features of these potentials for efficiency are the following above all:

1. New sources of efficiency are opened up in all directions of economic progress. Many effects having an influence on raising the efficiency of the overall reproduction process start with the rationalization of the information-handling processes. The information problem, which has become more and more critical over a relatively long period, is increasingly being overcome. Since the mass of information to be processed has grown rapidly--in the economic sector, in geometric progression compared to the development of production--constant redistributions of the social capacity for work were inevitable in favor of those sectors in which to a high degree processes of information handling have been mastered, in connection with which the supplying of information has frequently remained quantitatively as well as qualitatively behind the requirements. The technicalization of the work of these sectors--essentially for the first time--permits very great savings in human labor. In recent years, through the use of modern information technology accompanied a rising production it has proved possible to achieve in many combines a considerable reduction in employees in the areas of management, planning and administration.

A similar situation exists in connection with the processes of the systematizing and representation of knowledge. J. D. Bernal wrote on this: "In many sectors, there is today already a situation in which it is easier to find new facts or to develop a new theory than to ascertain whether perhaps they have already been discovered or propounded. It might seem

that the unity of science is in danger of collapsing under its own weight." (Footnote 13) (J. D. Bernal, "Science in History," Deutscher Verlag der Wissenschaften, Berlin 1961, p 860) With the development of information and communication technology, these dangers have been averted.

2. Above all the technicalization of information-handling processes permits a considerable and increasing gain of time in all processes of obtaining, transmission, and processing of information, as well as in connection with access to stored information, and thus it leads to a gain in time in all phases of the reproduction process. In the access to already existing knowledge and the saving of research time in the mathematical modeling and simulation of many problems that heretofore had to be solved through very time-consuming test runs according to the trial-and-error method, it is possible to achieve through computer-assisted manufacturing control systems (above all in flexible automated systems) considerable reductions of throughput times for parts throughout the entire manufacturing--in one case from a previous 3 weeks to 4 days at present--and thus a reduction of manufacturing times and delivery dates in general. But to a much greater degree than before, under present-day conditions a gain in time is a gain in efficiency. For a headstart in making available more efficient technical solutions there are higher rewards, and in time delays there are harsher penalties, than in earlier times.

3. Increasingly, optimal solutions are becoming possible--that is, the discovery of the most effective modification and thus of the more efficient use of all economic resources. Formerly, it was very often simply not possible at all to follow up on all seemingly practical modifications. Many calculations--for example in designing--were not precise enough when the pressure of time was large; designs were made with a relatively large "safety factor"--that is, for the sake of safety more material than needed was used. Precise calculations sometimes require the inclusion of very many variables, many limiting conditions, and calculations based even on differing time criteria; in this area, many things are not feasible at all without modern information technology. The optimal mode of operation of complex technological systems made possible through computer-assisted manufacturing control systems (CAM), through flexible machine control units, and through a real-time processing of information opens up new and very productive sources of efficiency. Optimization--that is, the finding and realizing of the most efficient modifications under the given technical, technological, and organizational conditions--is rapidly growing in importance with respect to progress in efficiency. The richness of variants for solving one and the same problem is tending to increase. An increasingly "all-encompassing," increasingly more comprehensive automation, with a simultaneously increasing flexibility of technological systems, enhances the importance of the internal optimization of these systems, with the goal being the greatest possible efficiency for the whole system.

4. The flexibility and adaptability of the reproduction process to changed needs and conditions as well as its receptivity to new technical solutions are increasing substantially; with that, the speed of diffusion and the economic effectiveness of innovations are on the rise.

Naturally, the initial conditions and the objective possibilities of raising the efficiency of the reproduction process through the use of information-processing technology are very different in the various combines and enterprises. In those combines and enterprises where the use of this technology has advanced the most, systems are being designed and to a great extent also realized in which computer-assisted management, planning, and accounting of the reproduction process, computer-assisted preparations for and controlling of production, and flexible automation solutions are combined with one another. This is happening on the basis of a new and comprehensive informational infrastructure, in which high-power central computers are increasingly connected with satellite computers and (mini)computer-assisted video display workstations, and to which belong corresponding transmission networks, which also permit access to centralized data banks of various sorts. Thus by way of the progressive technicalization of obtaining, transmitting, and processing information, by way of the more efficient organization and increasing interlinking of information flows, there forms a sort of information-technology mirror effect, a new type of "nervous system" of the overall reproduction process, which makes up a new, very fruitful soil for a progressive intensification.

From all this, demanding and very important tasks arise for management activity. Not only is this true of the step-by-step, progressive designing and realization of such systems--the ensuring of the conceptual preparatory work, the working out of a corresponding project of organization, the reorganization of the flows of information, the unification of the data base and the documentation, the exact determination of interfaces among the component systems and between them and the overall system--but above all it is true of the systematic tapping of the intensifying effects of these technical developments and the collectivization processes associated with them. An acceleration of all work cycles, optimal solutions in all phases of the reproduction process, a greater flexibility, and an adaptability in all economic processes can be produced only by way of a corresponding management and planning of the reproduction process in its totality. It is important to make these processes into the "starting point for an efficient organization of the work in the entire enterprise." (Footnote 14) ("Report of the Central Committee of the Socialist Unity Party of Germany to the 11th Party Congress of the SED," loc. cit., p 28) With flexible automated manufacturing systems, computer-assisted planning and technical preparation, and computer-assisted control and monitoring systems inclusively of quality control and preventive maintenance, we have started on a development that in the next 10 to 15 years and via various steps will lead up to more and more automated factories. (Footnote 15) (See ibid.)

12114
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ECONOMY

GERMAN DEMOCRATIC REPUBLIC

BRIEFS

NATURAL GAS FOR VEHICLES--Electricians from the Leipzig Electric Power Plant Construction enterprise have electrically outfitted the prototype for a natural-gas filling station, and the Leipzig-Grimma Chemical Plant Construction Combine is building yet more of these in our republic. Since 15 July this facility in Oberlichtenau in the vicinity of Karl-Marx Stadt has been running on a trial basis, before trucks and buses equipped for this will be allowed to fill their tanks with this fuel at five filling pumps a few weeks from now. The natural-gas filling station operates with a storage-programmable control system. The Soviet natural gas is condensed by large compressors to such an extent that it is enough for relatively long trips by buses or trucks. Despite a construction delay, the electrical assemblers under foreman Dietrich Wolfram managed to deliver over the facility after 4 weeks of assembly time, on schedule and with a high level of workmanship. In continuous operation, 250 vehicles can fill up per day at the filling station. Soviet trading partners are showing a great interest in this type of natural-gas filling station.

[Text] [Leipzig LEIPZIGER VOLKSZEITUNG in German 9 Sep 86 p 3] 12114

CSO: 2300/3

ECONOMY

HUNGARY

PLANNING DIFFICULTIES AT BUDAPEST TRADE UNION MEETING

Budapest NEPSZAVA in Hungarian 13 Sep 86 p 5

[Article by A.G.: "Trade Union Committees Expect Well-Founded Plans. Budapest Trade Union Council Meeting"]

[Text] The Budapest Trade Union Council met on Friday [12 Sep 86], with Jozsef Timmer presiding. Following a report by secretary Gyogy Vundele, the council debated the main lessons of trade-union participation in the enterprises' medium-range planning. Of the investigated 50 Budapest enterprises, only 34 have drafted or adopted medium-range plans. Because they have been operating consistently at a loss, five of the enterprises had to prepare detailed plans for a shorter period. And 11 of the enterprises drafted only the concepts of their plans. Among the reasons we should point out by all means the fact that the economic uncertainties make longer-range planning more difficult. Several enterprises prepared their medium-range plans on the initial assumption that the system of economic regulation would subsequently be modified. For this very reason some of the enterprises are able to forecast their operations only over a shorter horizon and are concentrating their attention mostly on annual planning.

On closer examination of the completed enterprise plans it can be established that each one considers the possibilities of sales, wage and salary raises, and manpower scheduling. These headings are also the tight spots in the plans, compounded by the enterprises' manpower problems. Among the constraints on the feasibility of the medium-range plans' fulfillment, there is less emphasis on the import difficulties and the shortcomings of the service industries.

The Budapest enterprises' employment-policy concepts contain few new features as compared with the preceding plan period. The manpower plans in several industries (Iron, Metal, and Electric Power Industry Workers TU; Leather Industry Workers TU; and Textile Industry Workers TU) do not seem well founded, anticipating only minimal reductions of the work force or none at all. At only a few of the enterprises can one encounter concepts involving the planned redeployment of workers or new systems of work organization.

According to the studies, medium-range wage policy has not been worked out adequately at enterprises of several branches (KPVDSZ [Commerce, Finance, and Catering Industry Workers TU]; Iron, Metal and Electric Power Industry Workers

TU; and EDOSZ [Food Industry Workers TU]). There are few ideas on how to differentiate wages and perfect the system of incentives.

The overwhelming majority of the TU committees at the enterprises actively participated in all stages of preparing the medium-range plans. But there have also been instances of consulting the TU committee only in the final stage, just before the plan's final draft or its adoption.

The first item on the Budapest Trade Union Council's agenda was followed by lively debate, in the course of which several critical statements were made that are well worth considering. One contributor to the debate objected that most enterprises, giving as their reason the difficult economic conditions that precluded any serious planning, had prepared only superficial concepts, which could hardly be called plans. Only a minority of the enterprises prepared plans that are carefully thought out and well founded. Nor was active participation in the economic discussions typical of every TU committee. The committees did not exercise their right to submit proposals, and did not contribute any ideas of their own. An even greater shortcoming was the frequent failure to prepare programs for social services and industrial safety, or even to formulate wage-policy measures. This was how the trade unions were losing their members' respect, the speaker established. Another contributor to the debate reported his quite different experience in the construction industry. The serious problems confronting the construction industry were common knowledge. (For example, a good many enterprises did not yet know what they would be doing in the fourth quarter.) With the trade unions' participation, therefore, multivariant plans were prepared. At many enterprises, unfortunately, the plans had to be modified, but always in agreement with the trade unions. The speaker also raised a problem of a different nature: in the construction industry, cooperation between the TU committees and the enterprise councils still kept stalling.

After Gyorgy Vundele's summary of the debate, the Budapest Trade Union Council approved the report with the proposed minor changes.

The Council then considered reports on the implementation of the 1981-1985 collective contracts, the experience of concluding the 1986-1990 collective contracts, and the TU tasks in helping to improve the protection of children and youths in the capital.

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ECONOMY

HUNGARY

JOINT VENTURE WITH NORWAY TO RESTORE HISTORICAL MANSIONS

Budapest MAGYAR NEMZET in Hungarian 12 Sep 86 p 3

[Article by Sarvari: "State Aid for Restoration of Mansions Raised to 60 Million Forints"]

[Text] The mansion program is familiar to those who are interested in preserving our architectural heritage. Five years ago, in 1981, the Economic Committee adopted a resolution allotting 1.2 billion forints over the 6th and 7th Five-Year Plans to preserve the mansions and public buildings that are on the list of historical landmarks and are the most endangered. This far-reaching resolution, which has provided both the financial and moral basis for saving and converting to public use the irreplaceable landmarks of our architectural culture, marks the beginning of a new era in landmark preservation in Hungary.

Adopted at the very last minute but still in time, the resolution covers 117 buildings, instead of the 72 proposed originally. This does not include the two preferential castles and five mansions for which the State Planning Commission approved a separate program in 1985, because of their significance and size.

At the start of the program, 29 percent of the castles and mansions on the list of historical landmarks were on the verge of ruin. However, the studies conducted as background material for the resolution also showed that these buildings, if they are restored with due consideration for the realistic possibilities and circumstances, can be put to new use for much less than what new investments would cost. Furthermore, if we were to let these physical landmarks of our historical past go to ruin, we would also be abandoning a stock of buildings that could serve well our economic, cultural and tourism interests.

Five years have elapsed since the start of this program. The report presenting a balance of these five years was discussed and approved by the Economic Committee and, at its Thursday [11 Sep 86] session, also by the Council of Ministers. On the whole, the balance is favorable. The amounts made available for the most urgent work also encouraged the efforts of local volunteers, and simultaneously the National Inspectorate for the Preservation of Historical Landmarks spent 190 million forints on preservation, structural repairs and

restoration. Under the system of competing for state investment aid, the State Development Bank pledged 77 million forints, from which it has disbursed 51 million forints so far, to start the reconstruction of 12 manor houses and public buildings.

The Ministry of Domestic Trade has also joined the program, providing 19 million forints in grants and 50 million forints in loans to convert 12 landmarks into tourist facilities. The local councils have begun the restoration of 40 buildings, to be used as schools and for cultural purposes.

It can be attributed to this program that further deterioration in the majority of the most endangered mansions and public buildings has been checked; and that, since the elaboration of suitable schemes, there is growing interest also abroad in our historical landmarks. In Vas Megye, for example, the megye's catering industry enterprise has formed a joint Hungarian-Norwegian venture to convert three buildings for use as hotels and restaurants.

The started preservation projects could be completed under the current [five-year] plan. To enhance their completion, the Economic Committee has decided to increase from 50 million to 60 million forints the amount of state aid that is being made available annually for the most urgent restorations.

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ECONOMY

HUNGARY

BANK OFFICIAL PROVIDES DETAILS ON BANKING SYSTEM'S REORGANIZATION

Budapest HETI VILAGGAZDASAG in Hungarian 20 Sep 86 pp 4-5

[Interview with Laszlo Body, a vice president of the Hungarian National Bank: "Bank, Enterprise, Citizen"; date and place not given; first paragraph is HETI VILAGGAZDASAG introduction]

[Text] In an economic situation more serious than expected, will the Hungarian banking system's extensive reform as of 1 January of next year not cause difficulties? Can we expect competition for accounts when the enterprises are in a general squeeze? When can the public expect the competing banks to seek its favor by improving and expanding their services? These were some of the topics on which Laszlo Body, a newly appointed vice president of the Hungarian National Bank, presented his views in an interview with our reporter.

HVG: What necessitates the banking system's reform as of next year? Is it pressure from the enterprises? For there has been fairly much criticism of the bank's bureaucratic red tape. There have been many complaints that the enterprises are at the lending bank's mercy; that the financial institutions are functioning practically as integral parts of public administration and do not take business-policy considerations into account in financing. One even hears that the approval of credit applications is no more effective than the redistribution of budgetary resources. On the other hand, a frequently voiced comment is that the banking system's reform is necessary because economic policy adjusts expenditure to resources often only subsequently, by rather drastic measures, soaking up purchasing power and increasing taxes.

L.B.: Much of what you say is true, but these are only the consequences. The principles and considerations behind the banking system's reform go far deeper. We regard this reform as an integral part of perfecting Hungary's system of economic management. We have long been considering that the banking system's further development must accompany, or logically follow from, the broadening of enterprise independence. Independent enterprises can do business only with independent, risk-taking and profit-oriented banks which are also competing with one another in the services they provide for the enterprises. In this sense, better banking services for the enterprises are truly an objective. But economic organizations must not foster any illusions about obtaining credit more easily after 1 January. Indeed, credit applications will probably be reviewed even more strictly than under the one-tier banking system. Up to now

the fact that certain credits are not being repaid has not given the Hungarian National Bank much of a headache. Henceforth, however, this will be a matter of survival: a careless credit policy could undermine a commercial bank's financial situation.

HVG: Mutually competing commercial banks, and above them the central bank as the pillar of monetary policy because it is not engaged directly in lending. In what respect does this broaden economic policy's set of tools?

L.B.: Monetary policy actually means financial policy but does not include budgetary (fiscal) policy. As a rule, the central bank is responsible for monetary policy in every country. Thus the central bank sets credit policy and exchange-rate policy, and regulates the capital market. In Hungary, as in socialist countries in general, the plan allocates the resources from the very outset, mostly through the state budget. This leaves the credit sphere only limited room in which to operate, and there are less resources from which to provide money in the form of credit. In addition to this quantitative limit, the credit sphere's operation is circumscribed also by the fact that it is cheaper for the economic organizations to borrow from the State Development Bank, and they are also able to obtain grants from the state budget. If we are now able to institute a fundamental change in this area and increase the credit sphere's role, then this will also enable economic policy to team up with the Hungarian National Bank and undertake in due course the monetary measures necessary to avoid disequilibrium, instead of correcting the processes only through the state budget, often when the disequilibrium has already occurred.

HVG: There are indeed many tools available to the central bank. But will they not limit excessively the operations of the commercial banks?

L.B.: Wherever monetary policy plays a role in economic policy, the central bank is able to intervene forcefully in the economic processes, and whatever the central bank does is considered to be in dead earnest. But the important thing is that the central bank employs indirect tools. In our country, too, monetary measures can serve the objectives of market competition, provided the measures are not too detailed. When the central bank sets the rediscount rate at which it lends to the commercial banks, for example, this rate applies to the commercial banks, but they are free to decide how much interest to charge a given customer on a specific transaction. Rediscounting itself is a monetary tool: the combined total of the revamped commercial banks' capital stock and deposits will not be enough for the time being to supply the demand for credit. Therefore the commercial banks themselves will be forced to borrow from the Hungarian National Bank. The disbursement of credits by the central bank to the commercial banks will depend on the volume of currency in circulation, and on the production and use of resources for the national economy. And since the availability of such credits will be limited, the commercial banks will certainly be competing for them. Meanwhile the Hungarian National Bank will also be taking the economic priorities into consideration. The rediscounting of credits provided for export expansion, the implementation of World Bank programs or energy conservation, for example, will be practically automatic. In addition, the central bank will also set the mandatory reserve ratio: i.e., the commercial banks will be required to keep on noninterest-bearing accounts

with the central bank a specified and variable percentage of the total deposits they hold. The central bank will be able to control also in this manner the commercial banks' lending, the level of interest rates and, in the final outcome, the money supply. And should one of the banks--God forbid--go bankrupt, its account with the central bank would also serve as that bank's ultimate reserve.

HVG: The sale and purchase of government securities, the open-market operations, are likewise a part of monetary policy. Is the Hungarian National Bank preparing to undertake this as well?

L.B.: In cooperation with the Ministry of Finance, we are planning to let treasury bills and government bonds play a greater role in the state budget's temporary financing (i.e., during the fiscal year), respectively in financing the budget's deficit. In other words, so-called treasury bills will be sold during the year, against anticipated revenue, to meet the budget's current expenditure. And if an annual deficit arises in the state budget, efforts will be made to offset it also through the sale of government bonds. This is certainly better than the present method under which the central bank finances the budgetary deficit by issuing more currency. Or the deficit is financed with a foreign loan, for example; but then this loan is lacking from some sector of the economy.

HVG: Will authorization from the National Assembly be required to issue government bonds?

L.B.: According to current practice, the National Assembly approves the budget deficit and simultaneously specifies how it is to be financed. For example, 5.0 billion forints' worth of government bonds have already been issued this year, and the rest of the deficit is being financed with the credit that the Hungarian National Bank is providing. I believe the public is informed of these transactions in due time.

HVG: Will private investors--in other words, the public--also be able to buy government bonds and treasury bills?

L.B.: No, they will be available only to economic organizations and institutions. According to our present plans, at least.

HVB: Avoiding excessive growth of the money supply, so as to keep the commercial banks' behavior from becoming uncontrollable, appears to be a primary concern of the banking system's reform. But many people are suggesting that something similar happened when plan bargaining between the economic organizations and their supervising agencies was replaced by "regulation bargaining," which so far has not been able to exert the desired effects on the market.

L.B.: To a banker, and thus to me as well, economic and fiscal equilibrium is of key importance. Brakes are indeed necessary, especially in the initial period, to prevent subsequent individual corrections. So far as market conditions are concerned, the organizational change alone is indisputably not enough to provide more money for efficient and profitable ventures. But a reformed banking system may certainly react upon the entire economy and help reinforce

Hungarian Banking System As of 1 January 1987

	<u>Form</u>	<u>Capital (10⁶ forints)</u>	<u>Address</u>
Central bank:			
- Hungarian National Bank (Magyar Nemzeti Bank)	Corporation	10,000	Szabadsag ter 8 Budapest V
Commercial banks:			
- Hungarian Credit Bank (Magyar Hitelbank)	Corporation	5,500*	Szabadsag ter 5/8 Budapest V
- National Commercial and Credit Bank (Orszagos Kereskedelmi es Hitelbank)	Corporation	5,000*	Arany J. utca 24 Budapest V
- Budapest Development and Credit Bank (Buapesti Fejlesztesi es Hitelbank)	Corporation	2,500*	Deak Ferenc utca 5 Budapest V
- Hungarian Foreign Trade Bank (Magyar Kulkereskedelmi Bank)	Corporation	3,000*	Szent Istvan ter 11 Budapest V
- General Securities Trading Bank (Altalanos Ertekgorgalmi Bank)	Corporation	1,000*	Szamuely utca 38 Budapest IX
Savings banks:			
- National Savings Bank (Orszagos Takarekpenztar)	State bank	1,300	Munnich F. utca 16 Budapest V
- Cooperative savings associations	260 cooperatives	-	
Development bank:			
- State Development Institution (Allami Fejlesztesi Intezet)	State institution	-	Deak Ferenc utca 5 Budapest V
Specialized financial institutions for development:			
- Interinvest Foreign Trade Development Association (Interinvest Kulkereskedelmi Tarsulas)	Limited association	2,000	Dorottya utca 8 Budapest V
- Construction Industry Innovation Bank (Epitoipari Innovacios Bank)	Corporation	744	Tevye utca 8-10 Budapest XIII
- TECHNOVA Industrial Development Bank (TECHNOVA Ipari Fejlesztesi Bank)	Limited partnership	424	October 6 utca 7 Budapest V

- AGRIT Agricultural Innovation Bank (AGRIT Agrar Innovacios Bank)	Limited association	600	Szechenyi rakpart 6 Budapest V
- Industrial Co-op Development Bank (Ipari Szovetkezeti Fejlesztesi Bank)	Limited association	300	Semmelweis utca 21 Budapest V
- INVESTBANK Technical Development Bank (INVESTBANK Műszaki Fejlesztesi Bank)	Limited association	620	Deák Ferenc utca 5 Budapest V
- General Venture Bank (Általános Vallakozási Bank)	Corporation	2,200	Stollar B. utca 3/A Budapest V
- INNOFINANCE	A Hung. N. Bank subsidiary at present An OTP subsidiary at present	500	Deák Ferenc utca 5 Budapest V
- National Savings Bank's Small Business Bank (OTP Kisvallalkozási Bank)	Limited partnership	300	Munnich F. utca 16 Budapest V
- Konsuminvest*		400	Bajcsy-Zsilinszky ut 3 Budapest V
Joint Hungarian-foreign banks:			
-Central European International Bank	Corporation	\$20 million	Vaci utca 16/B Budapest V
-Citibank, Budapest	Corporation	\$20 million	Vaci utca 19/21 Budapest V
Hungarian banks abroad:			
- Hungarian International Bank Ltd London	Corporation	£10 million	Princes House 95 Gresham Street London EC2V7LU
- Central Wechsel und Kredit Bank	Corporation	258.1 million schillings	Kartnerstrasse 43 A-1015 Wien, Austria

*Approval pending

the reform processes in other areas. This too will curb direct economic management and provide more room for indirect management. The banking system's reform, in my opinion, will have a favorable effect on enterprise management as well: a sound credit policy, respectively reasonable behavior on the part of the banks, could influence the enterprises to make sensible business-policy decisions.

HVG: The new banking system will be making its debut in 1987, but we already know that the economic situation this year is worse than expected. Can the enterprises be expected to make sensible decisions regarding investments and the financing of their working capital, when a large proportion are having financial difficulties, and important sectors and enterprises--the coal industry, metallurgy, and Ganz-MAVAG, for example--are regarded, respectively, as ailing industries and loss-making enterprises? In other words, might not the unfavorable starting conditions discredit the banking system's reform?

L.B.: The year of the reform's start unquestionably promises to be more difficult than expected. Consequently, the banking system's room for maneuvering will be more limited than we imagined originally. Furthermore, it makes sense to introduce and carry out a reform of the banking system only if we are able to flesh out the organizational framework with substance. I nevertheless believe that we should begin the reform, because this is the only way we will be able to make progress in the long run. In spite of the economic situation, incidentally, I have no fears about the banks' ability to operate profitably.

HVG: Many people are talking about a three-tier banking system. How many tiers will the system actually have?

L.B.: It will be a two-tier banking system, if we include in the second tier the smaller specialized banks performing limited banking functions. This of course does not exclude the possibility that some of these smaller specialized banks might advance later into a full-fledged commercial bank.

HVG: Hopefully they will choose names easier to remember than those of the commercial banks which are now splitting off the Hungarian National Bank.

L.B.: These names have actually perpetuated in some form or other the names of the predecessors. The Hungarian Credit Bank, and the National Commercial and Credit Bank are being formed from the Hungarian National Bank's two credit main administrations and its provincial network. The name of the Budapest Development and Credit Bank indicates that it is absorbing a part of the State Development Bank, which is about to cease, and also the Budapest Credit Bank (Budapesti Hitelbank).

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ECONOMY

ROMANIA

EFFORTS TO ATTRACT FOREIGN TOURISTS REPORTED

Bucharest COMERTUL MODERN in Romanian Vol 20 No 2 Mar-Apr 86 pp 17-20

[Article by Dr N. Zlatev-Ionescu and Dr Ioan Istrate: "Correlating Product and Promotional Policy in Tourist Marketing"]

[Text] Tourist marketing experts always supported and continue to support the need to distinctly incorporate the promotional policy into marketing strategy. This view is justified primarily by the sometimes decisive role played by promotional actions for achieving tourist objectives. Secondly, practice has shown that the absence of such actions can generate difficulties even for the normal unfolding of the enterprise-market relationship. Briefly speaking, a marketing policy includes: 1) product policy; 2) promotional policy (advertising, publicity at the sales outlet, public relations, and other activities--which may include promotional forms and techniques); 3) price policy, and 4) distribution policy.

In general, the tourist product policy in conjunction with the promotional policy involves a large variety of very complex activities.

**Analysis of the quality of the Romanian attractions launched or in the process of being launched in the international tourist market; such an analysis is necessary both at national level and at county or local level, and should include a comparison between the image of the Romanian tourist product with that of the products of certain competing countries.

Thus, for example, employing the criteria of tourist areas (Romania's Tourist Areas, IECIT [not further identified], 1975-78) we established a classification of the tourist areas of the Socialist Republic of Romania according to natural and cultural-historical potential, position in relation to the entire country, communications network, accommodations, socioeconomic development, and location, and on that basis we arrived at a number of exceptional areas (Bucharest, Black Sea coast, and the Danube Delta, that cannot be compared either among themselves or with others), areas of high or average tourist value, and so forth.

At a county level we examine each tourist (sub)product offered on the foreign market and establish its "behavior" within the international tourist circuit and its place within the general Romanian tourist product. Along this line,

the promotional policy must continuously devise means of expressing the novelty value of the product offered. (A conclusive example: for three consecutive seasons--1981-82, 1982-83, and 1983-84--the Belgian firm ROTOURS, which represents Romanian winter sports resorts, replaced only one photograph of Poiana Brasov (the lit slope of the Bradul Hotel), but not with a novelty image (horse sleigh outings, various trips, the new multifunctional complex, etc.), but with that of an old hotel.)

**Establishing a product strategy featuring the main lines of action of the tourist enterprises, by utilizing its natural, human, and financial potential, with a view to raising competitiveness. In this context, one important strategy is to highlight the Romanian tourist product in comparison with various competing offers; in terms of the promotional policy, this strategy can be advanced by the original contents of the tourist image. At a county or local level, the originality of the tourist image can be conveyed through:

--highly attractive natural scenery with a clean and unpolluted climate, selected from each separate county (for example, Cheile Turzii, Valea Cernei, Cheile Nerei, the Retezat National Park, the narcissus meadows, dendrological parks, etc.);

--the particular and original properties of certain natural spa elements (mineral and thermomineral waters, sapropelic muds, fine sand and the qualities of the Black Sea beaches and water, shallow water areas suitable for children of various ages, etc.);

--the originality of historical, artistic, and architectural monuments from various periods of our past (Geto-Dacian, Roman, medieval, modern, or contemporary), such as the historical centers of the large cities;

--the authenticity and beauty of Romanian folk art.

Within the same highlighting strategy we must emphasize Romanian tourist attractions that are unique in their kind. This category includes: the Danube Delta; Bukovina with its exterior painting churches; the Danube-Black Sea canal; the Transfagarasean road; the ruins of Dacian fortresses in the Orastie Mountains; the Danube gorge, etc.

**Innovation in the area of tourist attractions and a dynamic product policy require continuous improvements in the quality of the component elements of the tourist product and the relevant promotion of the respective product in the international market. This aspects concerns both material investments and the level and quality of services.

**Shaping the tourist attraction--an activity designed to continuously adapt it to the demands and preferences of the tourists; this requires prospecting and adjustments to market demand. (H. Meffert, Absatzpolitische Instrumente, in "Handwoerterbuch des Absatzwirtschaft," C.E. Poeschel Verlag, Stuttgart, 1974, p 890)

The two above mentioned activities are elements of the flexibility strategy (I. Berbecaru, Touristic Marketing, "Stefan Gheorghiu" Academy, Bucharest,

1978, p 163), characterized by the tendency to follow the development of tourist demand and to adapt services and accommodations to its traits and changes and in keeping with the environmental quality and tourist attraction of the area. This strategy must be reflected in the promotional policy, too. A few telling examples of this are: combined vacations, convenient forms of accommodation on the sea coast, congress facilities in Bucharest, Black Sea cruises, etc.)

**Continuous modernization of old tourist attractions, increasing their efficiency, and relaunching them in the foreign market can only be achieved through a flexible promotional policy. This applies to the spas, the Romanian sea coast, the tourist villages, and so forth.

**The necessary minimum of publicity material must be established for each county, town, resort, etc.

**And finally, by correlating the product policy with the promotional policy we can establish a promotional strategy, i.e., select the means of information and persuasion apt to convince the tourist to opt for the Romanian tourist attractions. The specialized literature (I. Berbecaru, Tourist Promotional Strategy, the Sport-Tourism Publishing House, Bucharest, 1976) increasingly views the promotional strategy as a strategy of communication, because of the belief that improving the process of communication between the buyer and the supplier of tourist services, or service distributor, or sales personnel is an essential condition for the success of a strategy.

Naturally, the promotional strategy varies in accordance with the nature of the tourist attraction in the first place, and with many other factors.

**The basic issue that the promotional strategy must solve within the context of the correlation between product policy and promotional policy is that of emphasizing the particular features of the Romanian tourist offer in comparison with other offers. These features must be emphasized--through appropriate promotional forms and techniques--for all the major tourist attractions.

1. The Romanian Black Sea Coast

**The Black Sea is not subject to ebb and flow; on the other hand, waves can reach 1-7 meters, thus favoring marine therapy (these factors can be featured in publicity messages). **The string of Romanian resorts along the Black Sea coast is almost uninterrupted from Navodari to 2 Mai, stretching over more than 70 km. **The Romanian Black Sea beach presents the great advantage of facing east, thereby being exposed to the sun throughout the entire year. In all of Europe only the eastern Italian coast enjoys a similar exposure, while the other Italian, French, and Spanish beaches face west, north, and south. **The climate of the Romanian sea coast results from the interference between maritime and plains climates. The presence of the Dobruja plains determines a higher air temperature, lower humidity, and very rare rainfalls. **The average temperatures during the summer season (June-September) is of 23-25°C, which is higher than on the Baltic Sea, North Sea, and British Channel coasts, but less hot than on the Mediterranean coasts. **The sun shines on an average of 220

hours a month; the summer months have 11-12 hours of sunshine daily, which means that the Romanian coast is as well warmed as the Mediterranean coast. **In Romania, the intensity of the sunlight is magnified by 10 percent by the rays reflected by the face of the sea and lakes and by the white sand. **The purity of the marine air allows the solar radiation to reach the ground in its entirety. **The high atmospheric pressure--maximum 764 mm, minimum 758 mm--ensures a high degree of blood oxygen. **The thermal stability, with small temperature variations from hour to hour and between day and night, is due to the fact that the majority of the resorts are located between two major water stretches (the sea and the lakes), which store a large quantity of heat during the day and release it slowly at night. **A stay on the Romanian coast of the Black Sea has a dual effect on the body: an invigorating one, due to the strong ultraviolet radiation and the high contents of iodine and salts in the air, and at the same time, a calming effect, due to uniform atmosphere pressure, very small temperature variations, and even humidity. **The harmonious combination of these two seemingly opposed actions generates a stimulating climate that activates the metabolism, reduces the respiratory frequency, permits an easier combination of blood hemoglobin with the oxygen in the air, promotes the blood circulation to the lungs and brain, and generally stimulates the biological processes. **The natural healing properties of the sea coast are varied. Spa treatment is applied through: sun bathing, sea bathing, mud treatment, sand bathing, and climatic factors. **In the majority of the Romanian beach resorts the slightly inclined immersion slope and shallow water depths (0-30 cm) make sea bathing safer for children of all ages. **The marine fauna is varied, featuring sturgeon (caviar producing Black Sea, stor, and beluga sturgeons, and sterlet) and dolphins, but no sharks or other dangerous species. **To all that one must add the original features of some of the accommodations, public catering, recreation, and treatment facilities (the hotels Europa and Belona of Eforie Nord; Raluca, Tismana, and Cozia of Venus and Jupiter; the hotels of Olimp and Cap Aurora; the Mangalia sanitarium; the speciality restaurants Nunta Zamfirei and Calul Balan, etc.).

2. Mountain Resorts for Winter Sports

**The Romanian mountains are on the average lower than the Alps, something that makes them accessible from all sides. **The mountains are crossed by modernized or forest roads and railroads, and the distance to the main airports does not exceed 200 km. **The variety of slopes and their different degree of inclination makes them accessible to both beginners and advanced skiers. **Many of the Romanian winter sports resorts are located on mountains covered by fir forests which make for a picturesque scenery and clean, unpolluted, and high-ozone air. **Thanks to their climate and other natural healing factors, the Romanian mountain resorts are also suitable for physical and mental rest and recovery throughout the year.

3. Spa Tourism

**The use of mineral waters or hot springs to treat certain disorders has a long tradition in Romania (the Herculane, Geoagiu-Bai, and other spas). **Romanian spas such as Baile Herculane, Baile Felix, Calimanesti, Caciulesti, and Govora have become famous throughout the world due to the quality of their

natural treatment factors: mineral springs, therapeutical muds, pleasant climate, etc. **The spas are located in particularly pitoresque natural areas with clean and unpolluted air. **The spas have the therapeutical and practical means of simultaneously offering profilaxy, treatment, and convalescence. **Standard spa cures are combined with treatments with original Romanian drugs (Gerovital, Boicil, Pell-Amar, etc.), royal jelly, herbal medicine, etc. **The beneficial effects of the natural healing factors of the Romanian spas produce noteworthy results in the treatment of stress. **The Romanian spas feature very diversified healing factors, something that permits the treatment of a broad range of disorders.

4. Itineraries, Cities

**Varied natural conditions and a multitude of anthropological tourist attractions, dating back to various historical periods, favor the organization of tourist excursions on a variety of themes and for varying lengths of time. **Theme itineraries can follow the development of artistic, archeological, or other styles such as: the Romanian school of painting, monuments in the Brincovenesc style, the buildings left by Stefan cel Mare or Petru Rares, etc. **Professional itineraries of interest to historians, geologists, geographers, biologists, ornithologists, museographs, etc. (Latin routes, following Roman footsteps in Dacia, Dacian fortresses and ruins, etc.). **Romanian folk art itineraries (preserved villages, ethnographical museums, traditional folkloristic events, etc.) **Prestigious socioeconomic achievements of the Romanian people (the Iron Gates hydroelectrical power plants, the Bucharest metro, etc.) **The existence of unique tourist attractions permits the organization of trips with a precise destination.

In order to enhance the competitiveness of the Romanian tourist offer we should have the tourist attractions that are scheduled to be launched on the international market catalogued by a coordinating commission made up of: representatives of the directorates of the Ministry of Tourism, experts from the National Tourism Organization, Ministry of Domestic Trade, Central Union of Consumer Cooperatives, COMTURIST, IECIT, and CEPCIHT [not further identified], and one representative each of county tourist agencies involved in the respective tourist objective. This commission should examine: the specific nature of the tourist attraction; similar attractions offered by competing countries; organization and management issues; potential demand according to agencies and countries; distribution contracts and channels; publicity messages (contents, promotional techniques and forms, seasons, duration, timetables, etc.).

With a view to intensifying Romanian promotional actions in international tourist markets and enhancing the attraction and competitiveness of our tourist offer, we must step up such activities both domestically and abroad. We need to find means of increasing and diversifying the promotional material concerning the offer of our major tourist enterprises, for which purpose they (ONT, OJT, ITHR) and specialized enterprises (such as Comturist) must participate more extensively in the promotion work and, with a view to successfully marketing Romanian attractions, they can furnish the producing enterprises with items such as billboards, posters, fliers, inscribed ashtrays, etc.

Scientific research can make an important contribution to increasing and intensifying promotional actions and enhancing their efficiency in keeping with the requirements of each tourist market, its potential in this respect being unlimited; thus, it can carry out market surveys, designed to provide the basic data on the evolution of tourist demand; create an image for our tourist attractions as compared to competing ones; provide information for promotional material (catalogues, posters, billboards, postcards, slides, films, video cassettes, tourist trademarks for certain spas and Romanian tourist products, etc.).

Along the line of intensifying promotional campaigns, special attention must be paid to our capital city (promoting the new image of Bucharest), tapping its cultural-historical aspects, as well as everything connected to novelties in what Romania has to offer for each tourist market and each of its segments (youth, seniors, etc.), in all the seasons of the year and all the areas of the country. The research can also furnish elements for intensifying cooperation with foreign tourist agencies specializing in package tours.

12782

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ECONOMY

ROMANIA

ARTICLE CITES IMPROVED HOUSING, LIVING CONDITIONS

Bucharest COMERIUL MODERN in Romanian Vol 20 No 2 Mar-Apr 86 pp 14-16

[Article by Ion Stancu and Mariana Marinescu of the Commercial Directorate for Metal and Chemical Commodities: "General Features of Housing Comfort"]

[Text] The party and state documents feature many references and provisions on continuously improving people's housing both in cities and in rural areas. Along this line, stressing that this is one of the permanent concerns of the party policy, Comrade Nicolae Ceausescu, the party secretary general, stated at the Third Congress of People's Councils: "We must keep in mind the fact that equalizing the working and living conditions of the urban and rural population must be done by raising the living standard of the villages. Urbanization does not mean concentrating a larger number of people in the existing cities, but raising the living conditions of the communes and villages to the level of those prevailing in urban localities." (Nicolae Ceausescu, Speech at the Third Congress of People's Councils, SCINTEIA No 13390, 11 Sep 1985). On the same occasion the party secretary general listed the specific tasks assigned to the various bodies and organizations for ensuring housing services: "I want to particularly call attention to the fact that the people's councils must organize housing maintenance and repair activities either directly, or through the artisans' and consumer cooperatives or even through the agricultural production cooperatives. In every city the people's councils and the artisans' cooperative must organize special units for housing maintenance and repair in keeping with consumer requirements."

In this context, one of the important tasks of the Commercial Directorate for Metal and Chemical Commodities [CDMCC] of the Ministry of Domestic Trade is to take scientific decisions on satisfactorily supplying the people with the consumer goods required to continuously raise their degree of comfort, and with products necessary for house maintenance and hygiene. Among the concrete means of fulfilling these important tasks a significant role is played by market studies, such as a comprehensive study on "The Market for House Maintenance and Cleaning Products," done in cooperation with specialists of the Institute of Domestic Trade and Tourism Economy. This study tackled a very complex series of issues on the basis of both statistical data stemming from secondary sources, and information culled from a statistic survey carried out in April-May 1985 (the poll investigated 7,650 households in 20 urban localities and 50 communes-villages from 15 counties and the Bucharest

municipality). In order to broadly disseminate and utilize the results of this study our magazine will carry some of the conclusions that are material for the practical activities involved in marketing consumer goods designed to ensure increasingly better housing conditions for all household categories in our country. Thus, the present article will refer to several essential findings concerning the matter of defining and pinpointing housing comfort.

In attempting to generalize the references found in the specialized literature on "comfortable housing" we want to mention that they are of a markedly historical nature. While the considerations initially employed gauged the degree of comfort of a housing unit according to the number of rooms (including bathroom, kitchen, etc.) or living area per person, other considerations were later added to include utilities (electricity, water, sanitary installations, gas, heating, etc.) and durable commodities. Simultaneously with these two categories of considerations defining housing comfort, others concerning services and the articles found in the housing unit (maintenance, repairs, disinfection and pest killing, interior or exterior changes, thermal and sound insulation, etc.) began to emerge and develop.

Something that is very important to emphasize in connection with all three categories of considerations is their markedly dynamic character, which in the last decade has been greatly amplified by the implementation of the state-of-the-art in science and technology. For example, concerning appliances, when evaluating housing comfort, an increasing number of authors take into account, aside from the appliances that have become "traditional" (radio set, refrigerator, television set, washing machine, vacuum cleaner, sewing machine, etc.), additional items that became popular at a later date (expel-air devices for the kitchen, telephone, air conditioner, linen drying closet, etc.). Recently we have been witnessing a genuine "explosion" in household appliances through the increasing utilization of appliances incorporating the latest achievements in electronics and microelectronics (for example, automatic program washing machines, electrical appliances with integrated circuit, remote control installations, microprocessor food processors, room air conditioning, etc.). All these new products have superior performances not only from a technological viewpoint, but also from the viewpoint of energy and raw material consumption, durability, practical uses, handling ease, time saving, etc.

The chief criteria for describing the degree of housing comfort in our country from the angle of the three categories of considerations listed above are the following:

--Number of Rooms and Their Area

The statistical survey carried out showed that, according to the overall number of living and utility rooms, the sampled and average housing units can be classified as follows:

overall sample (percentage)	urban environments (percentage)	rural environments (percentage)
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--units with two rooms and various utility rooms	42.9	38	47.6
--units with three rooms and various utility rooms	33.9	38.7	29.3
--units with four rooms and various utility rooms	9.5	10.7	8.3
--units with one room and various utility rooms	5.1	6.5	3.5

It also emerged that the great majority of housing units are located in individual buildings--56.9 percent of the sample consisting of one housing unit (normal house)--and in apartment buildings of at least two stories--37.3 percent of the sample. The proportion of households living in buildings with two or more units (row houses, duplexes, individual stories) is far lower: 5.9 percent. In accordance with the criteria for evaluating the degree of comfort we note that the units located in apartment buildings provide the most comfort from the viewpoint of overall number of rooms.

The average overall area of a housing unit for the entire sample was of 53.2 square meters, i.e., 16.1 square meters per person (considering that an average household is made up of 3.31 persons). This figure is higher than that recorded at the 1977 survey, when a housing unit featured an average area of 49.2 square meters, or 15.5 square meters per person on the average. The data furnished by the statistical survey showed that the average area of a housing unit increases in keeping with the overall number of rooms and depends on the type of building, occupation of the head of the household, and especially the number of household members.

--Durable Goods and Appliances

The second category of considerations for evaluating housing comfort concerns durable goods and appliances.

The majority of households in our country are provided with two major sources of potable water: 36.7 percent have running cold and hot water--72.2 percent of the urban housing units and 87.5 percent of the units located in apartment buildings--and 37.7 percent derive their potable water from a well (spring) -- predominantly in rural areas (71.3 percent of all housing units) or individual houses (62.1 percent).

As for heating systems, two types predominate: solid fuel stoves (49.2 percent of the entire sample), which are more numerous among rural households (87.1 percent) and individual houses (79.4 percent), and central heating, more widespread in urban environments (68.2 percent) and among apartment buildings (84.8 percent).

Concerning durable goods, the following six commodities were included for the purpose of the survey: radio receiver, television set, refrigerator, washing machine, vacuum cleaner, and car. The following table presents the frequency of the above commodities among households in our country:

	percentage
--radio receiver	8.2
--radio, television sets	7.5
--radio and television sets, refrigerator	8.6
--radio and television sets, refrigerator, washing machine	13.1
--radio and television sets, refrigerator, vacuum cleaner	2.6
--radio and television sets, refrigerator, washing machine, vacuum cleaner	23.4
--radio and television sets, refrigerator, washing machine, vacuum cleaner, car	10.5
--none of the above	3.3

It emerges from these data that our households enjoy a high degree of comfort from the viewpoint of simultaneous possession of two or more different durable appliances from among those featured in the study, especially taking into account the fact that only 3.3 percent of all the households have none of these goods.

--Household Services

On the basis of the data featured in the annual statistics books of the Socialist Republic of Romania we note a marked increase in the supply and use of potable water, gas, and electricity; thus, the 1983 figures were clearly higher than those recorded in 1974. For example, the average annual consumption of potable water per household increased from 64.8 cubic meters in 1974 to 127.3 cubic meters in 1983, which means that the volume was practically doubled. Equal increases were noted in the consumption of electricity for both household and communal uses.

The statistical survey considered certain aspects concerning household services, too, but only marginally and in connection with the utilization of certain products designed for the maintenance and cleaning of housing units and the commodities (installations) therein.

The general conclusion emerging from the above is that the housing conditions of our households are characterized by a high degree of comfort that is continuously rising from the viewpoint of the three types of considerations employed. This was the context in which the study anchored the very complex issue of the market for house maintenance and cleaning products; all the aspects concerning housing comfort constitute important points of reference for all the decisionmaking factors in the area of the production and marketing of such products and services. In point of fact, one of the vital elements of marketing relations is the dialectical unity between production and marketing, because in the conditions of planned economy prevailing in our country these activities constitute a unitary whole in relation to the consumers.

12782
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MILITARY

INTERNATIONAL AFFAIRS

QUALITATIVE IMPROVEMENTS SEEN IN WARSAW PACT AIRCRAFT

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 24 Sep 86 p 12

[Article by Siegfried Thielbeer: "A New Factor in Western Calculations"]

[Text] A strengthening of the Soviet air forces is being viewed with growing concern in the West. The increase in quality of Soviet airplanes in particular has been influencing Western strategic calculations for some time now. In addition to their traditional air defense tasks, the aircraft of the Soviet tactical air forces that are attached to the military districts or the "groups" (for example the "Group of Soviet Forces in Germany") can now also be employed for attack operations to a greater extent. With that, the previously existing superiority of the West could be put in jeopardy, a superiority that was always deemed necessary in order to be able to counter the superiority of the Soviet tank armies.

The Western armies expect the air force to be able above all to keep their rear clear of the flying forces of the other side. Therefore the strategy of the West aims above all at achieving air superiority. The East has sought to counteract the superiority of the Western air forces through the massive buildup of its air defense. Conversely, the West has developed expensive systems for "defense inhibition"--radar and infrared warning receivers, electronic jammers, and anti-radar weapons. At present it is being observed with all the more apprehension that for their part the Soviet pilots are in a position now to use electronic warfare on a large scale and that offensively they could cripple the Western bases with a surprise blow during the initial, perhaps decisive, days.

For the case of an attack in low-altitude flight (and a return flight at fuel-conserving intermediate altitudes), the Soviet standard fighter bomber SU-17 now has a range of 550 kilometers (instead of the approximately 250 kilometers of its predecessor SU-7). Its maximum weapon load is now some 3.5 tons instead of one ton. In a pure low-altitude action--in order to elude the radar of the other side--the range is still 360 kilometers. The standard fighter MiG-23 has a range of about 1,000 kilometers in an intercept mission at intermediate altitudes, instead of the 500 kilometers of the MiG-21. The fighter-bomber and attack version of the MiG-27 ranges a distance of almost 600 kilometers and has a maximum weapon load of likewise 3.5 tons. If only low-altitude flight is possible, the MiG-27 can go a distance of 390 kilometers.

Operational ranges vary depending on the weapon load, the flight pattern, and the flying speed: The faster the airplane is, such as in an intercept attempt, the shorter the range. The range increases if a portion of the weapon load is dispensed with and spare fuel tanks are carried along. For a comparison: In close support--that is, if it can save fuel by flying over its own territory until it reaches the battlefield--the "Tornado" has a range of almost 1,600 kilometers; in supersonically fast interceptor operations, this is only a little over 700 kilometers; with the "interdiction" mission, it is more than 900 kilometers with sustained very low-altitude flying, with low-altitude flight only in the attack phases it is 1,650 kilometers; while its ferry range comes to 4,000 kilometers. It can carry a maximum weapon load of 6 tons. The data for the American F-16's are somewhat lower.

In practice, this means that Soviet fighter bombers from advanced air bases in the GDR and Czechoslovakia can attack most of the Western bases in low-altitude flight--which alone provides a certain chance of surprise and of outmaneuvering the air defense. The Soviet air-force bases (like those in the West) lie mostly toward the rear, in the GDR for example in the area between Berlin and the Oder. From here, the distance to the NATO airfields in northern Germany (Oldenburg/Schleswig) is only 200 kilometers, and to the bases on the left bank of the Rhine (area of Moenchengladbach/Ramstein) it is 300 kilometers. Thus all the Western bases lie within the range of the newer Soviet fighter bomber types. The Soviet Union could commit all its airplanes, even the MiG-21's of its allies, as air-superiority fighters over the battlefield. In addition, from the bases east of the Oder the fighter bombers could also come into action.

The Soviet Union has always been able to muster more aircraft than the West. But this numerical superiority has compensated above all for qualitative deficiencies. The air forces of the NATO states, especially the American, rely on maximum technical performance: The superiority of the West in terms of air forces was also the reason for the Soviet effort to build up a comprehensive ground-based air defense. Conversely, it explains the neglecting of the army antiaircraft defense observable on the part of the Americans up to now. The Americans would be happy today if they had a system as good as the German antiaircraft tank "Gepard." High-performance airplanes with the best flying characteristics and excellent radar have been more in line with the Western concept of deciding war in its favor through technology.

Weapons systems of this high quality mean large costs and smaller numbers of units. Occasionally an examination has been made in model calculations as to whether, for example, instead of the F-16 and F-15 fighter bombers a larger number of less sophisticated airplanes should be made available, such as the F-5, which in its performance corresponds to the Soviet MiG-21. America would have been able to produce unit quantities of these approaching the Soviet inventory. Because of the high personnel costs, but also out of strategic considerations, again and again the decision came out in favor of the technological and expensive solution. Why should not the West also make the most of its technological superiority?

We will have to wait and see whether the Soviet Union will be able to obtain units of the new high-performance airplanes in similarly large numbers as those of the simpler older aircraft. So far, of the modern MiG-31's, MiG-29's, and SU-27's, only about 300 are in use. But the long introduction time for the new types does not yet mean that the numbers will not increase considerably more. Nevertheless: Modern radar and computer systems are enormously expensive and cannot be produced in just any number desired.

In addition there are difficulties in connection with training. At NATO, a minimum of 180 flying hours per year is in effect, which is achieved by all the air forces; and 240 hours are striven for--with American naval pilots even managing 280 flying hours per pilot. As a rule the Soviet pilots have had to content themselves with about 90 flying hours, but now this has risen to 120 flying hours. Probably no Western military officer will seriously argue that thereby a comparable skill can be achieved--if he did so, he would call into question the necessity of the irksome flight exercises over the territory of the FRG.

12114
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MILITARY

GERMAN DEMOCRATIC REPUBLIC

PERSONNEL SHORTAGES SEEN IN COMING YEARS FOR NVA

West Berlin IWE TAGESDIENST in German No 68, 2 May 86 pp 1-2

[Text] The East Berlin military leadership apparently intends to balance out personnel gaps arising for the National People's Army (NVA) in the coming years because of low birth-rate years by increasing the number of extended term and career soldiers. According to reports from the GDR efforts to recruit young people obligated for military service for a longer duty period have been substantially increased. For example, FDJ functionaries and authorities from the military commands have given well directed talks in enterprises and school in favor of a longer period of service. In a new resolution the FDJ leadership has expressly demanded that all groups and basic organizations of the GDR youth association undertake 'great efforts' to win over FDJ members 'for voluntary extended term military service and military careers.' Even with respect to the now completed call-up of recruits born in 1968, massive influence was exerted on the youth to sign up for a longer military duty period.

In this connection the director of Magdeburg Military Kreis Command, Cpt (Naval) Kurt Dethloff stated that 'over 40 percent' of the youth called up in Magdeburg 'opted for a longer service period.' This was the highest portion ever in the GDR bezirk city. In the recruitment of career officers, warrant officers, and career NCO's, the quotas were attained or in part exceeded. The head of the Magdeburg Military Kreis Command indicated that the call-up had been 'prepared in an especially determined manner' in the large enterprises.

An incentive for GDR youth to serve longer than the prescribed 18 months in the NVA, along with career and other advancement measures, seems to be the promise that in such a case they are called up during the next call-up period. On the other hand, some of the conscripts who perform the legally required basic military service, are called up at the age of 23 and older because of 'demographic circumstances.' Many GDR youth feel that a later call-up is disadvantageous not only professionally but also personally.

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POLITICS

CZECHOSLOVAKIA

PAPER REPORTS ON REAPPRAISAL OF JAN MASARYK

Berlin DER TAGESSPIEGEL in German 20 Sep 86 p 3

[Article by Alexander Loesch: "Prague Breaks Silence on Masaryk"]

[Text] Even today, the name of Masaryk still exerts an almost magical attraction for many Czechs and Slovaks. The most recent trends in political writing in the CSSR seem to bear this out. In an apparently large-scale action, the communist press of the country broke its decades-long silence and published several articles within the space of just a few days devoted to Jan Masaryk, the democratic politician whose name had virtually become taboo following the communist coup in Prague in 1948.

As we reported earlier, the two weeklies TRIBUNA and TVORBA (which are both organs of the CPCz central committee) carried identical articles on the occasion of Masaryk's one hundredth birthday on 14 September which referred to him as a "significant figure in Czechoslovak political life" and laid stress on his "profound relationship to the simple people and his great sense of responsibility toward the nation and the state." Somewhat later, RUDE PRAVO, the central party organ, published a similar eulogy. In order to inform international public opinion of this policy shift, the official Czech news agency CTK carried similar stories.

The answer to the question as to what motivated the Czechoslovak leadership to this dramatic change of policy might well be of some importance because up to now the Masaryk name carried a dual political charge as far as the communist rulers in Prague were concerned. In the course of the eventful history of the young Czechoslovak state (by European standards), which will be celebrating its 68th birthday on 28 October, there were two major political figures which bore the Masaryk name: Tomas Garrigue Masaryk, who founded the first democratic republic and became its first president, and his son Jan Masaryk, a long-time outstanding diplomat (who was envoy to Washington and later ambassador to London) who held the post of foreign minister in the last democratic government from the end of World War II until the communist takeover. The Soviet-style regime which was installed after the coup by the Stalinist [Klement] Gottwald felt forced on the basis of a certain logic of its own to extirpate the names of both Masaryks in Czechoslovakia in the years that followed.

On the one hand, the two Masaryks represented an obstacle to the formation of the new Stalinist mythology. The deep-rooted reverence for the first "president-liberator" among large sections of the population represented just as much of an obstacle as the popularity of the son which was based in particular on his regular addresses over the BBC to his occupied homeland during the war. For another thing, the memory of the last pre-communist foreign minister was also undesirable because his mysterious death by defenestration only 2 weeks after the communist takeover had given rise to persistent speculations to the effect that Masaryk was murdered at the behest of the new regime which have not been dispelled until this day.

No wonder then that the Masaryk issue assumed a key role as soon as the outward pressure of power was relaxed. This happened during the spring of 1968 when a short-lived attempt was made to rejuvenate Czechoslovak democracy. It started as a belated de-Stalinization of the CP leadership apparatus but in the course of the so-called "Prague Spring" it soon turned into an avalanche of the nation's pent-up political and social desires and longings. Almost overnight, the name of Masaryk suddenly appeared in public all over Czechoslovakia.

At the time, the focus was on Tomas G Masaryk, the president of the first republic, of course. That democratic pre-war state (from 1918 to 1938) now appeared to many as the last "lost paradise" in an idealized light after all the years of repression--despite its shortcomings with regard to the nationalities issue for instance. T G Masaryk's philosophical and political writings as well as many books on him and his achievements appeared in print again and streets, squares and railroad stations which were still called by their old Masaryk name by the public now were officially renamed after him once again.

But just as inevitably the public soon focused on Jan Masaryk as an individual once again and on the mystery surrounding his death. Pressure by the public and the no longer censored media increased to such an extent that the authorities were no longer able to limit their investigation into Masaryk's death to popular interviews with surviving witnesses on television and had to launch a full-scale judicial inquiry into the matter. A final, credible solution of the case as well as the further development of the Czechoslovak democratic experiment ultimately ran afoul of outside intervention, i.e. the invasion of Czechoslovakia by the Warsaw Pact states on 21 August 1968.

In the years that followed, during the period of so-called internal "normalization," i.e. the reinstitution of rigid post-Stalinist rule, the rumors surrounding Masaryk's death understandably received added nourishment. People thought that one of the reasons behind the invasion might possibly have been that Moscow wished to prevent additional, all-too-embarrassing revelations stemming from the new investigation of the mysterious incident.

There is no need to point out that the Masaryk name was almost eradicated once again after 1968, though not quite as rigorously as in the fifties. The official encyclopedia of the CSSR Academy of Sciences, for example, did contain a relatively extensive entry for T G Masaryk, albeit with a note that he took a "hostile stand" toward the October Revolution and that he contributed to the "consolidation of the rule of the upper bourgeoisie" in Czechoslovakia while he was president.

There is also an entry dealing with Jan Masaryk in this reference work. It underscores the official version of his death, i.e. suicide resulting from a severe depression. For reasons which are still not entirely clear the liberal, non-partisan foreign minister was the only prominent democratic political figure to join the puppet government in the days following the communist coup. As a result--so goes the official communist version--he became the target of "attacks by reactionary circles in the West" and this in turn brought on the depression which led to his committing suicide.

Since Gorbachev's assumption of power, a variety of signs seem to point to a carefully orchestrated thaw in Soviet internal politics. There is a good deal of concrete evidence for this by now: the rehabilitation of Pasternak; the publication of works by poets who had previously been attacked as counter-revolutionaries; more flexibility in information policy. But until now there had hardly been any indication that this kind of comparative liberalization might be extended to the other countries of the Soviet empire.

For another thing, the problem of present-day Czechoslovakia is a particularly thorny one--even if an internal relaxation were to take place at Gorbachev's behest. Following the stormy erosion of the communist power structure in 1968; following that drastic experience with the inner dynamics of democracy, it seemed far less likely that the Prague rulers would opt for even a minimal relaxation of the system.

There may be two reasons for the cautious rehabilitation of Masaryk in Czechoslovakia. Perhaps the Prague regime believes that it has consolidated its position to such an extent that this traumatic past can be removed without much danger to the regime with the help of some rewriting of history. The way in which Masaryk is being eulogized in the CSSR press would speak for this theory. The articles point out that Jan Masaryk--based on his own experiences in World War II and his realization of the "Western betrayal of Czechoslovakia in Munich in 1938"--had revised his father's "anti-Soviet stand" and become a staunch supporter of a pro-Soviet policy by Prague. The lifting of the Masaryk taboo, however, could also be interpreted as an attempt by the Prague officials--analogous to the GDR--to make up for the loss of their own historical past by integrating this political figure into their own "positive historical heritage." There is every reason to remain skeptical in either event.

POLITICS

POLAND

SOVIET, OTHER BLOC AMBASSADORS MEET WITH 'PAX' GROUP

Warsaw RZECZPOSPOLITA in Polish 28 Apr 86 p 2

[Text] A meeting organized by the presidium of the PAX Association and PAX members of the Society for Polish-Soviet Friendship took place on 26 April at the association's educational-resort center in Halina near Wyszkow on the 41st anniversary of the signing of the Agreement on Friendship, Mutual Assistance and Cooperation between Poland and the Soviet Union. Soviet ambassador Vladimir Browikow and ambassadors from other socialist countries were present.

Zenon Komender, chairman of the PAX association, led the meeting.

Participants stressed the fact that cooperation among socialist countries serves to preserve peace. It was said that in discussions before the PZPR's 10th Congress, the importance of peace initiatives by Mikhail Gorbachev was stressed, noting that the fate of our country is closely tied to peace in Europe.

It was said at the meeting that against this background, the militaristic policy of the US administration and the unprecedented aggression against Libya, condemned by progressive world opinion, pose a direct threat to peace and security in Europe and the world.

The representatives of the socially progressive Catholic PAX movement discussed the association's work and recent PAX delegation visits in Berlin, Prague and Moscow to develop contacts and cooperation among Christians in socialist countries in support of peace and to fortify the trend toward non-governmental joint cooperation and friendship among the people of those countries.

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POLITICS

POLAND

PRIEST RESPONDS TO 'JAN REM' ACCUSATIONS

Allegations Denied in Catholic Weekly

Krakow TYGODNIK POWSZECHNY in Polish No 17, 27 Apr 86 p 3

[Letter to the Editor by Rev Kazimierz Jancar]

[Text] An exhaustive article by Jan Rem entitled "Ballast" from the "Samosady" [Summary Justice] series, appeared in the 5-6 April issue of GAZETA KRAKOWSKA and the entire party press. In that article I was attacked by name and accused of disloyalty to Cardinal Franciszek Macharski, the metropolitan of Krakow.

In order to make his point, Jan Rem uses excerpts from a circular called "News from the Information Service of the Solidarity Regional Committee, Malopolska. Special Edition." The circular was widely distributed and scattered on the stairways of apartment buildings in Nowa Huta. On one page, the circular contains my alleged interview for the "News" and on another an appeal "To the laity and priests of the city of Krakow and Nowa Huta."

In connection with this, I declare that:

- 1) The interview is fake from beginning to end and I have nothing to do with the appeal.
- 2) I most emphatically repudiate and condemn the insinuations directed at Cardinal Macharski and associated with me in the "Ballast" article.

Let this declaration also be a public expression of my priestly obedience and profound reverence for Cardinal Franciszek Macharski and my complete loyalty to the Krakow church.

Rev Kazimierz Jancar
(Nowa Huta-Mistrzejowice)
Krakow, 14 April 1986

Warsaw TRYBUNA LUDU in Polish 8 May 86 p 5

[Text] We are pleased to note Rev Kazimierz Jancar, pastor of the faithful in Nowa Huta-Mistrzejowice, distancing himself from the virulently anti-government underground publication, "News from the Information Service of the Solidarity Regional Committee, Malopolska." "The interview (with Rev Jancar) is fake from beginning to end and I have nothing to do with the appeal" ("To the laity and priests of the city of Krakow and Nowa Huta"), declared the victim on page 3 of No 17 (1922) of TYGODNIK POWSZECHNY. Consequently someone has abused the name of a priest who is popular in so-called opposition circles, which is always reprehensible, and all the more so in the proximity of the altar.

What is surprising is that Rev Jancar directs his righteous anger against Jan Rem, who quotes the interview in an article, not against those pretending to be the manipulators. And the question remains: Why didn't Rev Jancar, who himself wrote that "the circular was widely distributed and scattered on the stairways of apartment buildings in Nowa Huta" protest immediately instead of permitting his parishioners to remain under the false impression that it was the words of their priest that reached them?

We understand that fundamental considerations did not permit him to denounce this abuse in the "regime" media which are, as we know, a tool of Satan. But from the pulpit? In the columns of TYGODNIK POWSZECHNY? Why such a delay?

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POLITICS

POLAND

BOOK PUBLISHING SITUATION VIEWED, CRITICIZED

Warsaw POLITYKA in Polish No 34, 23 Aug 86 p 8

[Article by Miroslaw Michalowski: "Book of Complaints"; passages enclosed in slantlines printed in boldface]

[Excerpts] /As an old professional bookseller who has directed one of the largest and most modern bookstores in the country, the Contemporary Bookstore in Bydgoszcz, for 33 years, I would like to share with you my observations about books and bookstores, based on my experiences with readers.

What is happening to book enterprises, which found themselves supposedly reformed but without the three S's, horrifies me. For some, my observations will be controversial, since they do not agree with their interests or views. Unfortunately, most of those concerned prefer to silence criticism, to paint over, and limit information. In Poland everything is still too polite, too smooth, nameless, general. I am departing from these habits./

It is a truism to state that the book as a fundamental carrier of culture should be accessible, cheap, and in mass circulation. Unfortunately, life shows another face of the book. Today the book is mostly the limping world of its production, distribution, the special interest of the publishers, authors and distributors, and administrative, political, and ideological preferences. /The sum of these elements, some mutually contradictory, does not make up a common publishing policy, which serves the readers' interests or the state's cultural policy.

The Schizophrenic Book Market

I represent the readers' interests, which is not shared by the publisher, the printer, or the author. Usually each author or publisher will find enough arguments to prove that his book is valuable and must be published. Unfortunately, the book that finds no buyer is a bookstore brick--future scrap paper--which leaves us with a schizophrenic book market. Books on some topics are in short supply and others are in over supply, unwanted, and unread.

Listing these hundreds of bookstore bricks would be senseless. One only has to walk through a bookstore and see these chimneys of unsold titles lying

on the shelves. In prosperous times, nearly every book sold out. But the seller's market has ended, and the reader's has returned, as the increasing number of remainders of unsold books, which cause sizeable organizational and economic problems, testify. The National Bank of Poland which finances us, has reacted very sharply to the overstocking; it does not care about the culture creating functions of the bookstores, and sooner or later it will cease to pay for books readers will not buy.

Shortly, booksellers will begin ordering new books very carefully. The publishers, on the other hand, will be forced to return to previous ways of dealing with bookstores. Today the profit margins are uniform, commission sales unheard of, good promotion lost (so-called swallows).

Seldom does a publisher announce its plans; all want to sell their entire printing at once. Selling books to bookstores does not mean the reader will buy them. Unfortunately, for the author and the publisher only the stocks in the warehouse count. Everything else is sold and can be reprinted. No market on research is done; worse, no survey of retail bookstores' stocks is ever made.

/Despite these irregularities, despite the known printing difficulties and troubles with paper, the production of books is increasing./ Last year 248.2 million copies were published, and a year earlier 229.7 million. For the first time in many years, the number of belles-lettres titles has increased: 1985, 961,000 titles and 43.7 million copies; 1984, 879,000 titles and 37.8 million copies.

Here, unfortunately, exaggeration has set in. The usual statistical methods for analyzing book sales have their weak points. Not long ago books were printed (collections of novellas, lectures or belles-lettres) in one volume. Today works are published in several volumes or in a dozen booklets, and seldom is this practice justified. The Book and Knowledge publishing house has published a small book by M. Rodziewiczowna: "The Summer of the Forest People" in two booklets. Iskry for several months has presented us with booklets on the signs of the zodiac, instead of publishing them in one volume, as the National Publishing Agency did (L. Szuman, "In the Realm of the Zodiac Signs"). This house has, however, published J. Janicki's "Home" in four volumes instead of one. Iskry wasted its "black" series of science fiction, publishing it in shabby booklets, etc. In the statistics, each item counts individually.

In my opinion, given the catastrophic situation in the paper and printing industries, /the size of the printings should be enlarged at the cost of the number of titles,/ obviously within reasonable limits. I realize that I risk offending various authors, even publishers. Their interests prefer publishing many titles, since the publishers are judged by the number of publications. The extensive number of separate publishing houses also increases the number of titles.

Slowly, the book is becoming the tool of a narrow social group. /Fortunately, we can still observe in some publishing houses large printings of good books.

We can see also superb understanding of the market by publishers like the State Publishing Institute and General Knowledge Publishers. But many titles appear that are condemned to lie of the shelves from the beginning. Even the libraries do not order them. Simultaneously, no one believes the bookseller and librarian know the readers' needs.

Books for Shredding

A few words about paper and printers are due here. As is known we lack proper paper for printing books. Moreover, we have multiplied the various, independent dissidents, competitors for the paper supply. Every eighth tone of writing paper goes to the administration. Much paper decays in warehouses and in transport. There is no cultural authority that can change this situation. The efforts by the Ministry of Fine Arts and Culture have been insufficient and ineffective. Krzysztof Teodor Toeplitz was right to criticize the incompetence of the culture lobby. /We cannot accept the cut in the paper supply for printing books that looms ahead. Obviously, the economic spheres are not particularly interested in the expensive printing of books./ Mining, smelting, the power industry, agriculture are more important.

Even in the 1960's the printing industry became stagnant, when the developed countries were experiencing a technical revolution, making fast, cheap mass production possible. In Poland the readers' needs rose much faster than the industry's ability. As a result, today /the printing industry lacks almost everything: modern technology, paper, glue, even boards for covers./ Book binders are a limiting factor in printing: barely 7 percent of the books are bound. The shortage of workers in printing has grown to catastrophic proportions.

In conclusion, I would like to add a small stone to my own garden. The tragic situation in the book market was created not just by the dissidents, as is insinuated. We created it ourselves, the employees of the enterprise The Book House. Frequently, we provide the reader with poor service. Due to our neglect of our duties, there is a high level of unexcused absences, mistakes, waste, closed shops, bad information, lack of manners in service, and other similar sins. To be sure, bookstore employees are frequently discouraged by their immediate supervisors. We are still suffering from the organizational errors of the past period.

/Unfortunately, under the new conditions The Book House has become impossible to reform, in its original form. We must make the radical organizational and economic changes the economic reform and the Polish readers' needs demand. We still lack a true patron for the implementation of these orders. While waiting for a better time, we ourselves in our bookstores must handle the unearned difficulties and endeavor to carry out our tasks./

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POLITICS

POLAND

CATHOLIC WEEKLY REVIEWS ECONOMIST'S SOCIO-POLITICAL IDEAS

Warsaw PRZEGLAD KATOLICKI in Polish No 34, 24 Aug 86 p 3

[Column on Edward Lipinski by Jerzy Mikke: "Utopian or Visionary"]

[Text] He died at 98 years of age, the worlds oldest activist and theorist of socialism.

An intellectual, who in a conscious manner experienced the blinding accomplishments and illusions of the last century (which, as is known, ended during the period of the First World War) and nearly the entire, turbulent twentieth century.

A humanist, indifferent to dogmas and religion, who 2 years before his death made his peace with God, although from his early childhood he had been a Christian in spirit and ethical instincts, as his writings and acts show.

A thinker and economist with an international reputation, a member of foreign academies and scientific societies. A Pole, always conscious of his patriotic duties.

In the rich biography of Edward Lipinski, each of these threads deserves a large doctoral study.

As the author of the radio series "Faces of Thinking People," and the subsequent book by the same title, I had several long conversations with the professor before the microphone. The first took place at the beginning of the Gierek era in 1971, and the last during the final months of Solidarity, to compare his views of Poland's problems with that of a decade earlier. The evaluation of the socio-economic situation the professor made then seems unoriginal, for it rang with common sense and the facts seen with the naked eye. His vast knowledge and prestige gave his criticism special reliability.

In this conversation about current events, two statements had the greatest importance. In response to my question about how he saw the union movement in light of the events of August he said:

"I underestimated the working class. I thought that it was politically immature, that it was not capable of making mass claims beyond material needs.

Meanwhile in the course of these years, a new generation of workers, better educated, read, more interested in the world, with a developed sense of class, national, and international consciousness has grown up.... This new, young class has not put down roots everywhere. Not everywhere are there leaders of the right stature; and the role of leaders in a turbulent period like the present can be decisive. But today political postulates, such as freedom of expression, defense of the rights of private farmers, or human rights, have become fundamental parts of consciousness throughout the working class, and all of society."

In response to my question about how the professor saw the hierarchy of tasks facing the country now (in 1981) and in the near future, he answered: "The struggle with the economic crisis and renewal of our political life are equally important. Without renewal of our political life, without a modicum of trust in the authorities, without a free press, without freedom to criticize, without freedom to associate, there can be no thorough economic reform. These two phenomena: politics and economics are tightly intertwined. Politics even has some priority. A political atmosphere, a degree of social trust is essential...all this conditions discussion of economic reform and economic activity."

Our conversations were not limited to current Polish problems. The professor also imparted to me his reflections on eternal values, contemporary civilization, and his vision of the future: "We ourselves give life its value. There is no scientific law that can automatically lead humanity to heaven. The illusion of zero progress is the most dangerous."

The deceased scholar in his articles and statements (at least until 1981) usually defined himself as a socialist. Even those (such as the undersigned), who today do not identify with socialism, could agree with his vision of this order, unless they are supporters of the reprivatization of banks and large industry. The socialism of the future, in Lipinski's version, denotes neither state capitalism nor a system based on state ownership of the basic means of production. Some branches of industry should be socialized. He was a supporter of cooperatives in the traditional sense. He assigned the private sector no small role in the socialist economy (medium-sized agriculture, small industry, retail sales, some services).

Inasmuch as socialism socialized the basic means of production, the professor claimed, then "the only real difference between socialism and capitalism lay in the separate systems of values, in what was produced and for whom, and especially in what model of life we wish to create." For example, Lipinski treats all economic activities as a cultural product, as a product of the people, not just the value of the raw materials and labor, as is done now, but also of the losses from polluted rivers, air, and soil, which in turn act on the worker and health, and thus on the costs of treatment. He applied similar criteria in establishing the national income.

"In this manner in my considerations I came to the notion of the 'socio-moral infrastructure' as the general factor in part determining the foundations of economic activity, in which conditions are created that promote human

freedom, autonomy, an environment suitable for man, the opportunity to participate actively, and a rich margin of private life."

Certainly, all theorists of socialism have pointed to the imponderables like "human rights" and the "development of man's consciousness," but Lipinski stated them in his own unique way. Simply, not all statements are the same. Lipinski's difference lay in what he was not.

He was not a supporter of the theory of class struggle, and thus of the dictatorship of the proletariat, but of an order based on the complete self-organization of society: "the autonomy of action by an individual, a group, an association, a people, is the premise for all creative, dynamic development. The slogan, the religious enemy, the racial enemy, the political enemy contradicts all development conceived as self improvement."

He was not a supporter of the marxist view that existence defines consciousness, on the contrary, he expressed the conviction that if "human action was exclusively dependent of material benefits, then today we would still live in caves."

He was not a supporter of the theory that believes in the inevitability of progress and its benefits. Surely, he was an avid believer in technical progress, "if we could succeed in giving this progress human values; progress itself is an untamed thing and can contain antihuman elements."

He was not a supporter of philosophical materialism, although on ontology (first causes, the creation of the world and life on earth) or on the immortal soul, he never expressed himself in his comments or writings, as far as I know. The role, however, that he assigns to man in nature and in history shows the decided primacy of spiritual values over material ones.

Thus, the Polish scholar differed in his views not only from previous and present theorists of collective socialism, but from present social democrats and Eurocommunists, who do accept the principles of pluralism and parliamentary democracy, but take the naive view that technical progress and general wealth must automatically lead to higher forms of spiritual life for the masses. However, the "dominance of economic values in the system of social values gives birth to a crippled society,...as he writes in the work "Karl Marx and the Question of Modernity."

The professor sees the source of the frustration and pain of modern man in his stunted spiritual development, in his "unfulfilled and unexperienced life."

What produces self-realization in life? In work, that does not have to be professional work. Technical progress (automation) should serve to shorten thoughtless work and monotony in favor of creative activities, as he says: tending a garden, craftsmanship, amateur creative arts, not to mention reading, contemplation, and participation in public life. A socialist economy should reduce the role of planning in the production of basic products (the market will decide) in favor of long-term shaping of needs, which should serve the quality of life. The whole of the citizenry certainly feels the

awakening of civilizational and technical needs: they desire a car, color television, luxury articles, whose possession ensure the owner a certain social prestige. These desires, however, are of a lower order.

We should, however, and this is the role of the socialist economy, arouse spiritual needs that serve self-creative work, such as books, artistic objects, beautiful furniture, and especially controlling the environment in which we live. Lipinski opposes the civilization of the car and television to the civilization of the dwelling and architecture. In the home the individuality of the person should appear and even the relative state of his wealth. "A modest home for the masses should in the future also be a work of art.... In a small space, the lack of quiet, isolation, intimacy worsens the climate of family relations; people become psychologically ill. 'Space educates,' Le Corbusier wrote. Man seeks movies, games, restaurants, car trips in order to escape the inhuman conditions of his own home.... Thus, as one must learn to understand an art work, to listen to Beethoven, a man must learn to live. But he can learn to live only by living. And then only slowly, perhaps over several generations. Access to artistic experience, and living experience should become a variety of artistic experience, always was a privilege of a small number of people, like the privilege of a dwelling, the privilege of being alone and quiet, the privilege of a private life.... Beautiful surroundings, landscapes, a city, a settlement, a dwelling, determine the dissemination of this aesthetic consciousness."

I have not devoted so much space to Lipinski's "philosophy of the dwelling" by accident, since in no other area did he demand such high standards from the socialist economy as he did in the creation of aspirations for a dwelling and of the human spirit. The socialist state is the owner of urban lands, greenery, buildings, industrial workplaces; thus, potentially it should ensure the millions of statistical inhabitants a significantly higher standard of housing than the capitalist system. So far the socialist reality (especially when we speak of the quality of housing and of daily life) conflicts with the professor's vision.

But the fullest self-creative life of a man should appear in the form of his life with other people, inasmuch as "he himself is the foundation of development." "The ability to cooperate with other people, to be recognized and approved of by the community--these are the fundamental prerequisites for the development of the person. To be thrust out, rejected, pursued, hated, surrounded by resentment is equivalent to the death of the person.... If he deviates from the official faith, he can develop only in the company of his fellow believers, by creating a sect. Thus, civic action, the communal conquering of obstacles, communal building are so significant. Totalistic systems are very dangerous for the development of culture.... Totalism gives the individual an unappealable rule, decides the forms of life and the directions of cultural and political development,...impoverishes society, destroys the reserve of opportunities for development," Lipinski writes in "Karl Marx and the Question of Modernity."

This almost encyclopedic review of the professor's views shows him as both an opponent of collectivism and American technocracy. The consumption civilization of the West with its false gods: money, aggressive advertising, numbing "mass culture," and its car worship also awakened disgust in him. "The world is entering a period in which the decisive power of production will be the thinker, the inventor, the manager, the planner, the artist, the humanist. We cannot raise just physicists, if simultaneously philosophers and artists are born."

I would not be surprised at all if the communists and the socialists of various stripes, noticed in Lipinski's views accents completely at variance with their own interpretation of the received classical doctrine. However, it is not my problem to determine to what degree the professor was or was not a socialist. For me and for many he was a thinker and a moralist.

Certainly, his vision of the future borders on the utopian. If I told him that, he would not object at all: "One should not fear utopia. If one fights for utopia fiercely and systematically, something of it will become reality. Ultimately, we know that the idea that envelops the masses becomes a truly historical force. Old utopias have lost their strength among the people; it is time to find new ones. The path of humanity will always be crossed by contradictions. When we overcome them, new ones will arise. The thing is to overcome those that threaten us now."

I will add: Are new utopias the only way to save mankind from the Seven Horsemen of the Apocalypse?

The quotations are from "Faces of Thinking People" (2d enlarged edition, 1983).

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POLITICS

POLAND

SEMINAR FOR RELIGIOUS GOING ABROAD

Warsaw RZECZPOSPOLITA in Polish 10-11 May 86 p 5

[text] The annual seminar for priests and nuns on their way to work in Polonia and foreign missions took place in Warsaw from 5 to 9 May. The seminar was organized by the Ministry for Religious Affairs in consultation with church authorities. Participants heard lectures on Poland's international situation and principles of the PRL's foreign policy, the country's economic situation and prospects for economic development in the years 1986-1990, as well as cultural exchange between the PRL and foreign countries.

Jerzy Ozdowski, vice-marshal of the Sejm and vice-chairman of the PRON National Council, met with seminar participants and discussed significant social issues and state social policy in Poland. The director of the Office for Religious Affairs, minister Adam Lopatka, presented the present state of church-state relations and the secretary general of the "Polonia" Association for Unity with Polonia Abroad, Wojciech Jaskot, acquainted participants with the association's work.

Participating in the seminar were 75 monks, 22 nuns and nine diocesan priests who are going to 34 countries on all continents, mainly to Third World nations.

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POLITICS

ROMANIA

ACTIVITIES FOLLOWING NATIONAL FESTIVAL DISCUSSED

[Editorial Report] Bacau ATENEU in Romanian No 6, June 86 publishes on p 13 a 700-word article signed "V.M." dealing with activities undertaken in the wake of the fifth edition of the national festival "A Hymn To Romania" by the Bacau County Committee for Socialist Culture and Education.

According to V.M., after handing out prizes garnered during this festival, the committee proceeded to "analyze at several levels the way in which those in positions of responsibility organized the activities of the festival," and then "elaborated measures for improving the organization of next year's edition" with similar analytical efforts to follow in towns, villages and municipalities.

The committee took note of certain problems it felt had not been handled satisfactorily, such as the proper evaluation of folk arts and crafts and "combatting cases of hooliganism, theft, alcoholism, immorality, waste and social parasitism." On the other hand, V.M. continues, "Bacau county has organized numerous manifestations which have contributed to the development of the creative economic thought of the masses." The county now has 62 clubs with 2500 members dedicated to inventions, of which 80 were produced in 1985 "valued at 53 million lei."

V.M. ends the article on a negative note. He finds that educational activities in certain localities "have lost sight of the fact that scientific-materialist education is an integral aspect of communist education, in accordance with the scientific-materialist revolutionary conception." He ends by urging that specialists of all kinds get together and organize a "collective front" in order to bring about "future accomplishments in the field of socialist awareness and in the socialization of the new intellectual and material values."

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SOCIOLOGY

GERMAN DEMOCRATIC REPUBLIC

RESTRICTED AVAILABILITY OF RESEARCH RESULTS DECRIED

East Berlin DAS HOCHSCHULWESEN in German Vol 34 No 9, Sep 86 [signed to press 15 Jul 86] pp 239-241

[Article by Prof Dr Guenther Haense, director of the Department of Linguistics at the Friedrich Schiller University in Jena: "Publication of Dissertation Results--But How ?"]

[Text] Analyses of the results of academic research being prepared by young academics in their dissertations call attention to a none-too-satisfactory situation. The doctoral candidates submit their work which is meant to contribute to academic progress; it is then evaluated by the experts, defended in public debate and then duly noted by the research collective. The actual findings are incorporated into the research and educational programs of the institutions at which the dissertations were prepared and on occasion these findings are also published in one of the relevant university or technical school journals. In some academic disciplines, compendia are published which contain abstracts of the dissertations. But for many graduates that is as far as it goes--and their doctoral dissertations are then simply filed away.

Only rarely is an article based on the dissertation ever offered to one of the relevant professional journals. As a rule, the articles which are in fact submitted are too long and neither fit into the journal's publication program, nor are they addressed to the appropriate audience. They also leave a good deal to be desired in terms of language and style. And when the author is told by the journal's editor that the article cannot be published (in its present form), he is disappointed and makes no further effort to place it.

The result is that only a small group of professionals already informed of the content in advance take note of the dissertation at all. Potentially interested persons, whose number may by no means be small, either have no access to the material or experience some difficulty in obtaining it. In other words, there is a wide gap between the research results contained in the dissertations and their actual utilization by the academic community. This is an unsatisfactory situation both in terms of academic progress and the further career of the individual young academic. That state of affairs could be improved upon if the faculty advisor and the

doctoral candidates would make a firm commitment at the outset, i.e. when the topic is agreed upon, and throughout the preparation process and the completion phase to have the dissertation published in full or at least in part. Let me cite some of the ways in which this might be done.

When the topic is agreed upon and a work outline is drawn up, the question of whether the anticipated results could be published will be considered and taken into account in establishing the actual work schedule. Neither in terms of content, nor of deadline should the planning be exclusively oriented toward completion of the dissertation. It should be taken into account that the dissertation ought to be made available to institutions other than the parent institution and also, how it might actually be offered. The doctoral candidate should then be informed of all the possible avenues leading to publication of his dissertation and he must also know how actually to go about this. He will probably be aware of the relevant series of publications and the professional and popular journals--but only in terms of his personal use of them as source material. Here there is a great need for the faculty adviser to stimulate, support and facilitate the student's efforts--the more so since he will probably be in touch with the appropriate editors and also knows what the requirements for publication are in terms of form and content.

The young academic must also be told how he can turn his dissertation into a finished manuscript for publication as a monograph or article. In order to be accepted for publication, such an article should contribute to academic debate, provide information about the research findings contained in the dissertation and be written in such a way that it appeals to the audience for which it is intended.

But in order to meet these requirements, the young academic will have to possess information and skills which have only partially been imparted to him in the course of his studies. German language instruction in our secondary schools over the past several decades has concentrated on expansion of vocabulary, the teaching of grammar and, as far as writing is concerned, on the development of "descriptive" skills of a variety of "utility formulas." Our high school graduates, in other words, possess some knowledge and some skills relating to orthography, lexicology, morphology and the rules of syntax and have also been taught to write descriptive, discursive, reportorial, narrative and expository texts as well as some types of textual material such as is used in everyday communication. During the course of his studies the student is faced with more demanding assignments such as the preparation of seminar reports, diploma papers and, lastly, his dissertation. In solving these linguistic-creative problems, the student must do more independent work. He is assisted therein by his faculty adviser--the more so since a good many aspects--particularly relating to the proper structure of the material--are standardized to some extent in accordance with the requirements of the specific discipline involved.

But when a young academic goes about preparing an article for a professional journal, he must have the kind of expertise that was never demanded of him before. This calls for high-quality writing skill and that, in turn, calls for familiarity with communication processes, with the basic elements of text production² and with the way in which such material is received by the professional community. The young academic should be able to respond to the question "who is communicating with whom about what for what purpose under what time-and-space conditions?" and also be able to draw the proper conclusions through his composition of the text. The most important aspect is familiarity with the standards that apply to the writing of monographs and articles in professional journals. These standards apply to both content and language.

There are certain conventions and some instances even standards which apply to specific types of materials. But that does not mean that there is no room for variation or individual style. In fact, variation and the possibilities for variation depend on the text in question.

The author should be aware of this dialectic of convention and variation and should also be able to apply this to the actual job of composition.

The young academic must be aware of the fact that he needs to clarify the specifics of his research work for publication in the same manner as he does in his particular discipline. He should not only be imparting information but should also be able to integrate his material into the process of academic discussion.

The basic standards of text structure include the selection of the structural patterns appropriate to professional journals, i.e. those applying to text composition and text "architecture." It is a well-known fact that the proper structuring of the entire article can substantially facilitate its reception; that the article will be easier to follow if the material is divided into sections and these, in turn, into paragraphs which may themselves be highlighted by subheads. Unfortunately, quite a few articles submitted by young academics do not follow such structural characteristics.

Effective publication of academic material calls for a style which is appropriate to the subject matter and the audience. There are a great many style manuals which spell out the requirements for such articles.⁴ The young academic would surely profit from studying any of them.

Writing style will also be enhanced if discussion of technical literature in seminars, post-graduate courses and doctoral seminars does not merely focus on the technical aspects but also on the style of the texts involved. The mere discussion of how comprehensible a text is and why can teach a lot about how appropriate its style is. The young academic should receive guidance on such topics as abstractness and concreteness; comprehensible use of scientific terminology and linguistic variety; objectivity and subjectivity; the utilization of expressive language.

My point of departure in making the above suggestions was the as yet generally unsatisfactory situation concerning the publication the research results contained in dissertations. Although what I have said is restricted to work done in the social sciences, it probably applies to the natural sciences and medicine as well.

The publication of research materials calls for an understanding and for skills which exceed the requirements of the particular academic discipline itself but which nonetheless are part of the qualifications to be expected of an academic. The goal therefore is not only to achieve as great as possible a utilization rate for graduate work but also to create a sense of responsibility for linguistic excellence in our society among our young academics.

FOOTNOTES

1. Cf the structure which is commonly used in the publication of natural science texts, i.e. (1) statement of problem; (2) materials and methods; (3) findings; (4) conclusions.
2. W. Fleischer and G. Michel in "Stilistik der deutschen Gegenwarts-sprache" [Stylistic Aspects of Present-Day German], Leipzig, 1975, p 316ff differentiate among the following five basic elements: (1) discussion of the terms of reference; (2) determination of the basic materials; (3) development of a communications scheme; (4) formulation of the text; (5) control and editing of the composition.
3. This calls for skills such as commenting, referencing, registering, defining, using polemics and arguments and summarizing, etc.
4. Fleischer/Michel; Geier/Huth/Wittich, "Verstaendlich und wirksam schreiben" [Clear and Effective Writing], Leipzig, 1982 including bibliography on p 147ff; H. Ludwig, "Gepflegtes Deutsch" [Proper German], Leipzig, 1983; G. Moeller, "Warum formuliert man so ?" [Why We Write This Way], Leipzig, 1983; "Unternehmungen zur Sprache der Gesellschaftswissenschaften" [Language Projects in the Social Sciences] in "Linguistische Studien" [Linguistic Studies Series], Leipzig, 1977.
5. G. Haense, "Sprachkulturelle Aufgaben der Universitaeten und Hochschulen" [Teaching Linguistic Excellence in Institutions of Higher Learning], DAS HOCHSCHULWESEN, No 11/1985, p 302ff.

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